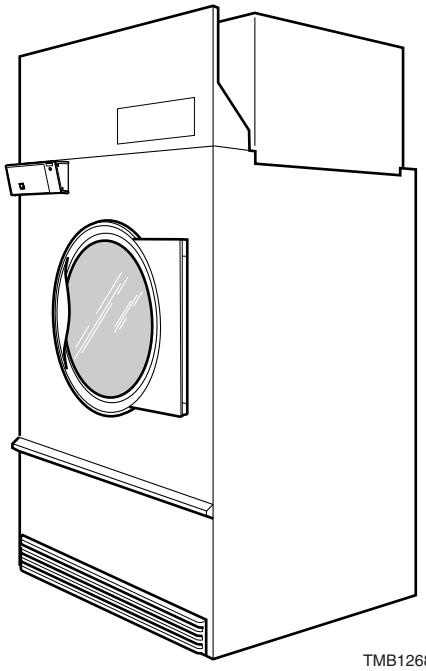
Drying Tumblers

120 Pound Capacity
170 Pound Capacity

Models Starting Serial No. 0907003062

Refer to Page 7 for Model Numbers



TMB1268C

Troubleshooting

Alliance Laundry Systems

www.comlaundry.com

Part No. 70422201
December 2009

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Section 1
Safety Information

Throughout this manual and on machine decals, you will find precautionary statements (“CAUTION”, “WARNING”, and “DANGER”) followed by specific instructions. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

DANGER

Danger indicates an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.

WARNING

Warning indicates a hazardous situation that, if not avoided, could cause severe personal injury or death.

CAUTION

Caution indicates a hazardous situation that, if not avoided, may cause minor or moderate personal injury or property damage.

Additional precautionary statements (“IMPORTANT” and “NOTE”) are followed by specific instructions.

IMPORTANT: The word “IMPORTANT” is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE: The word “NOTE” is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

In the interest of safety, some general precautions relating to the operation of this machine follow.

WARNING

- **Failure to install, maintain and/or operate this product according to the manufacturer’s instructions may result in conditions which can produce serious injury, death and/or property damage.**
- **Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and unless you understand and have the skills to carry out the servicing.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the product is properly grounded and to reduce the risk of fire, electric shock, serious injury or death.**

W006R2

-

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IMPORTANT INFORMATION: During the lifetime of a tumbler, it may require service. The information contained in this manual was written and is intended for use by qualified service technicians who are familiar with the safety procedures required in the repair of a tumbler, and who are equipped with the proper tools and testing equipment.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumbler before servicing.**
- **Never start the tumbler with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W240

WARNING

Repairs that are made to your products by unqualified persons can result in hazards due to improper assembly or adjustments subjecting you, or the inexperienced person making such repairs, to the risk of serious injury, electrical shock, or death.

W007

CAUTION

If you or an unqualified person perform service on your product, you must assume the responsibility for any personal injury or property damage which may result. The manufacturer will not be responsible for any injury or property damage arising from improper service and/or service procedures.

W008

NOTE: The WARNING and IMPORTANT instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution and carefulness are factors which CANNOT be built into this tumbler. These factors MUST BE supplied by the person(s) installing, maintaining or operating the tumbler.

Always contact your dealer, distributor, service agent or the manufacturer on any problems or conditions you do not understand.

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Locating an Authorized Service Person

Alliance Laundry Systems is not responsible for personal injury or property damage resulting from improper service. Review all service information before beginning repairs.

Warranty service must be performed by an authorized technician, using authorized factory parts. If service is required after the warranty expires, Alliance Laundry Systems also recommends contacting an authorized technician and using authorized factory parts.

Safety Warnings and Decals

SAFETY WARNINGS and decals have been provided in key locations to remind you of important precautions for the safe operation and maintenance of your tumbler. Please take the time to review these warnings before proceeding with service work.

All decals have been designed and applied to withstand washing and cleaning. Decals should be checked periodically to be sure they have not been damaged, removed, or painted. Refer to the ***Parts Manual*** for ordering replacement decals.

Safety Precautions for Servicing Tumblers

- **Disconnect electrical service.**
- **Shut off supply gas valve before servicing gas components.**
- **Access panel MUST be reinstalled after inspection or servicing of tumbler is completed.**
- **Use a non-corrosive leak detecting compound to check all pipe connections for gas leaks. DO NOT USE AN OPEN FLAME TO CHECK FOR GAS LEAKS!**
- **Belt guard MUST be reinstalled after inspection or servicing of tumbler is completed.**
- **Contactor box cover MUST be reinstalled after inspection or servicing of electric and/or reversing tumbler is completed.**
- **Loading door switch MUST be operational before putting tumbler into service.**
- **Junction box cover MUST be reinstalled after inspection or servicing of tumbler is completed.**

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Section 2
Introduction

Model Identification

Information in this manual is applicable to these models:

	Gas			Steam/Thermal Oil	
120 Pound	BA120L	HU120L	SA120L	BT120S	LT120T
	BA120N	HU120N	SA120N	BT120T	LU120S
	BT120L	IT120L	ST120L	BU120S	LU120T
	BT120N	IT120N	ST120N	BU120T	PT120S
	BU120L	KA120L	SU120L	CT120S	PT120T
	BU120N	KA120N	SU120N	CT120T	PU120S
	CA120L	KT120L	UA120L	CU120S	PU120T
	CA120N	KT120N	UA120N	CU120T	ST120S
	CT120L	KU120L	UT120L	GT120S	ST120T
	CT120N	KU120N	UT120N	GT120T	SU120S
	CU120L	LA120L	UU120L	GU120S	SU120T
	CU120N	LA120N	UU120N	GU120T	UT120S
	GA120L	LT120L	XT120L	HT120S	UT120T
	GA120N	LT120N	XT120N	HT120T	UU120S
	GT120L	LU120L	XU120L	HU120S	UU120T
	GT120N	LU120N	XU120N	HU120T	XT120S
	GU120L	PA120L	YT120L	IT120S	XT120T
	GU120N	PA120N	YT120N	IT120T	XU120S
	HA120L	PT120L		KT120S	XU120T
	HA120N	PT120N		KT120T	YT120S
	HT120L	PU120L		KU120S	YT120T
	HT120N	PU120N		KU120T	YU120S
				LT120S	YU120T

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	Gas			Steam/Thermal Oil	
170 Pound	BA170L	HU170L	SA170L	BT170S	LT170S
	BA170N	HU170N	SA170N	BT170T	LT170T
	BT170L	IT170L	ST170L	BU170S	LU170S
	BT170N	IT170N	ST170N	BU170T	LU170T
	BU170L	KA170L	SU170L	CT170S	PT170S
	BU170N	KA170N	SU170N	CT170T	PT170T
	CA170L	KT170L	UA170L	CU170S	PU170S
	CA170N	KT170N	UA170N	CU170T	PU170T
	CT170L	KU170L	UT170L	GT170S	ST170S
	CT170N	KU170N	UT170N	GT170T	ST170T
	CU170L	LA170L	UU170L	GU170S	SU170S
	CU170N	LA170N	UU170N	GU170T	SU170T
	GA170L	LT170L	XT170L	HT170S	UT170S
	GA170N	LT170N	XT170N	HT170T	UT170T
	GT170L	LU170L	XU170L	HU170S	UU170S
	GT170N	LU170N	XU170N	HU170T	UU170T
	GU170L	PA170L	YT170L	IT170S	XT170S
	GU170N	PA170N	YT170N	IT170T	XT170T
	HA170L	PT170L		KT170S	XU170S
	HA170N	PT170N		KT170T	XU170T
	HT170L	PU170L		KU170S	YT170S
	HT170N	PU170N		KU170T	YT170T

Includes models with the following control suffixes:

R3 – reversing DX4 OPL
RD – reversing DMP OPL
RM – reversing OPL micro
RQ – reversing dual digital timer

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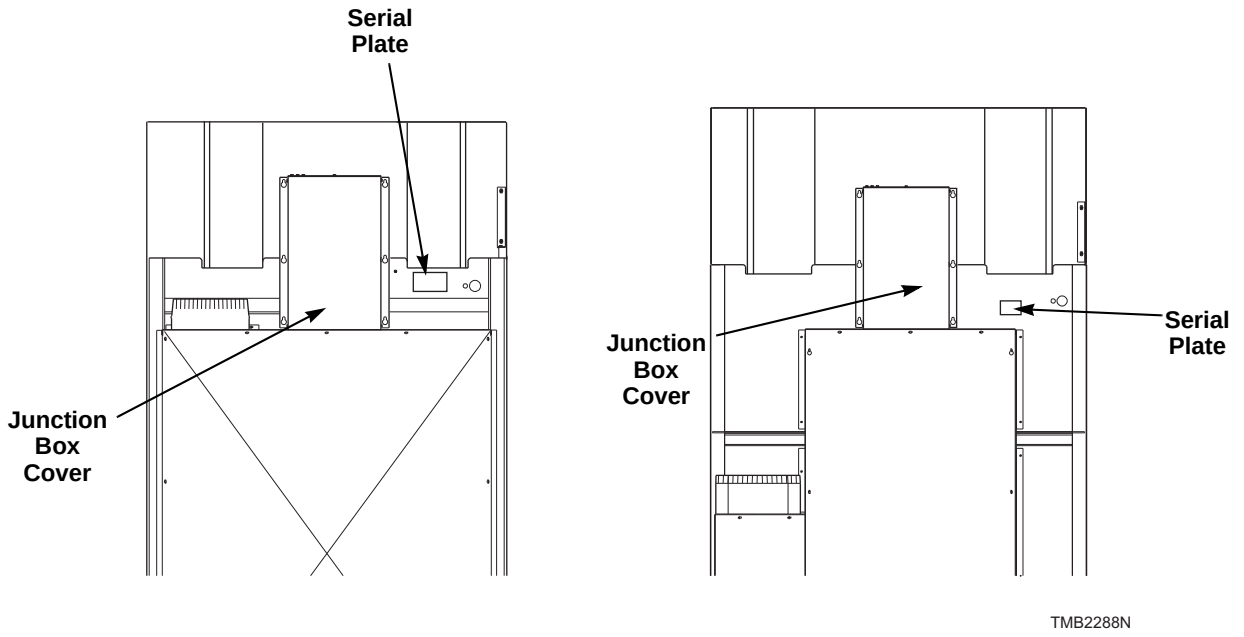
Customer Service

If literature or replacement parts are required, contact the source from whom the machine was purchased or contact Alliance Laundry Systems at (920) 748-3950 for the name and address of the nearest authorized parts distributor.

For technical assistance, call (920) 748-3121.

Serial Plate Location

When calling or writing about your product, be sure to mention model and serial numbers. Model and serial numbers are located on serial plate as shown.



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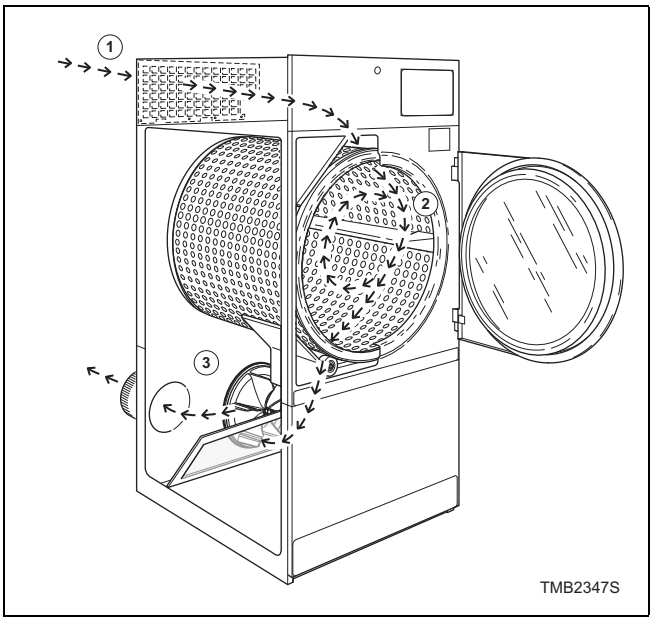
How a Tumbler Works



A tumbler uses heated air to dry loads of laundry.

① When the motor is started, the exhaust fan pulls room temperature air in through the air intake at the rear of the tumbler and over the heat source (burner flame for gas, heating element for electric, and coil for steam).

② The heated air moves into the cylinder, where it is circulated through the wet load by the tumbling action of the cylinder.

③ The air then passes through the lint filter, exhaust fan, and is vented to the outdoors.

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Section 3
Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W002

IMPORTANT: Refer to appropriate wiring diagram for aid in testing tumbler components.

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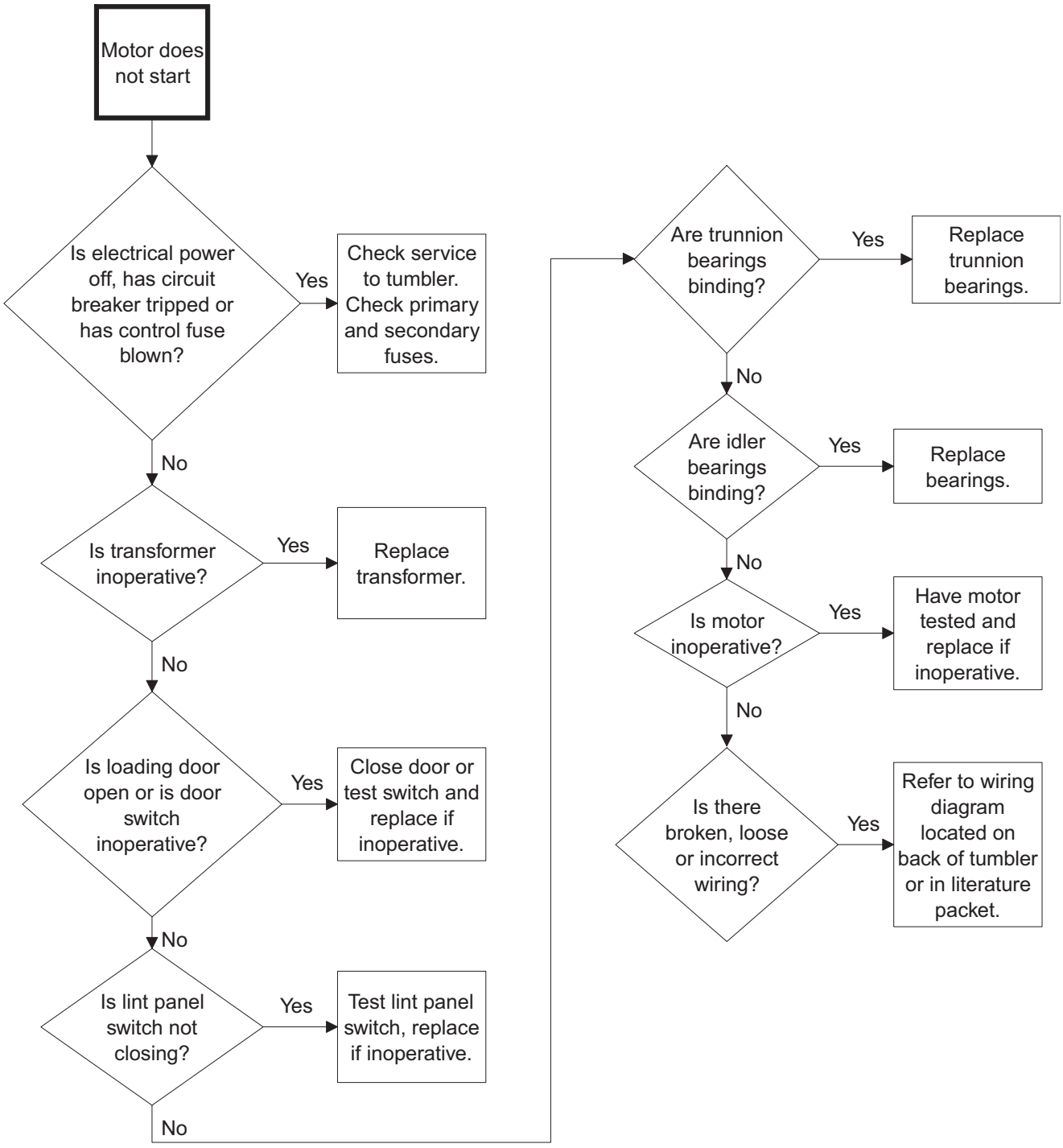
1. Motor Does Not Start



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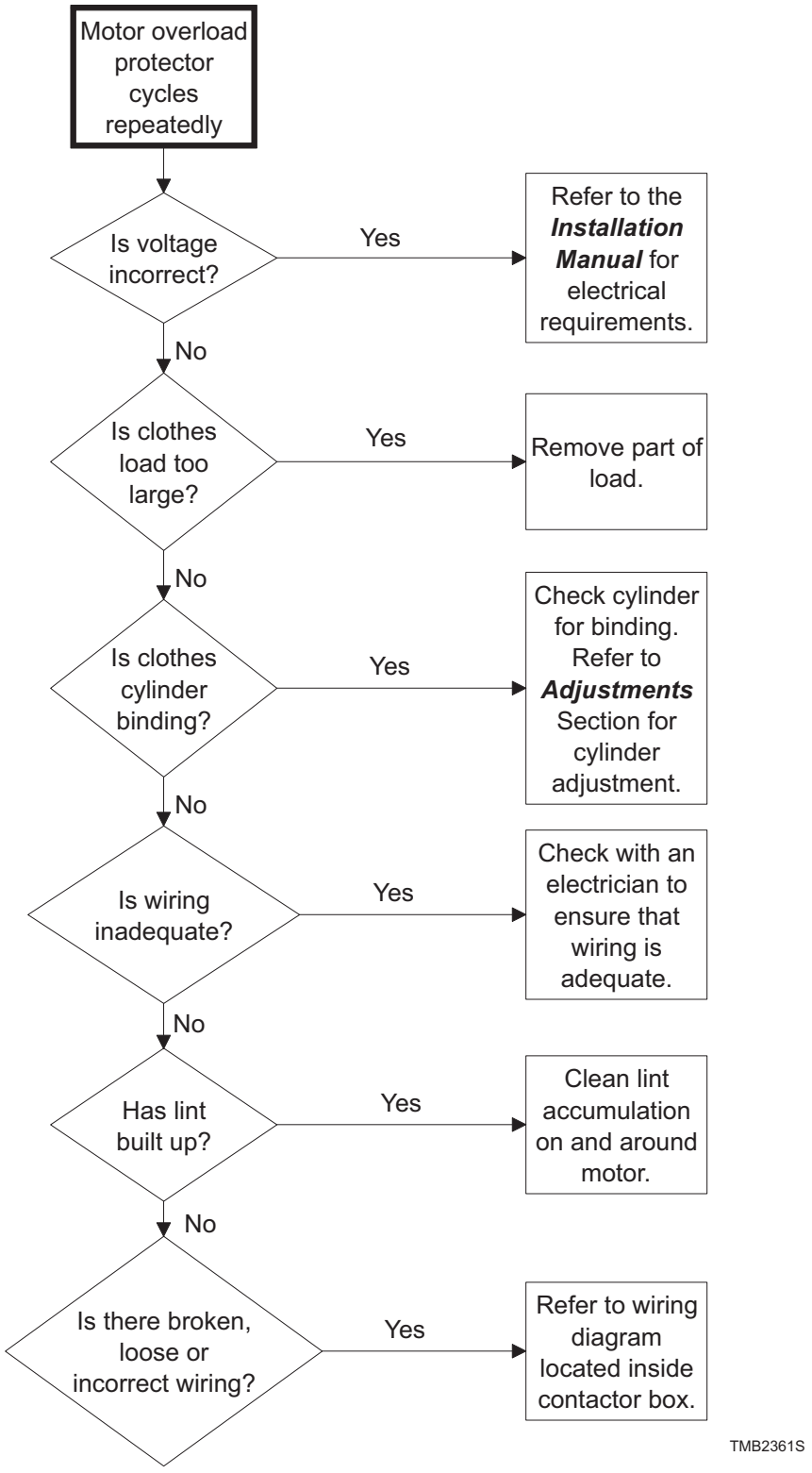
2. Motor Overload Protector Cycles Repeatedly



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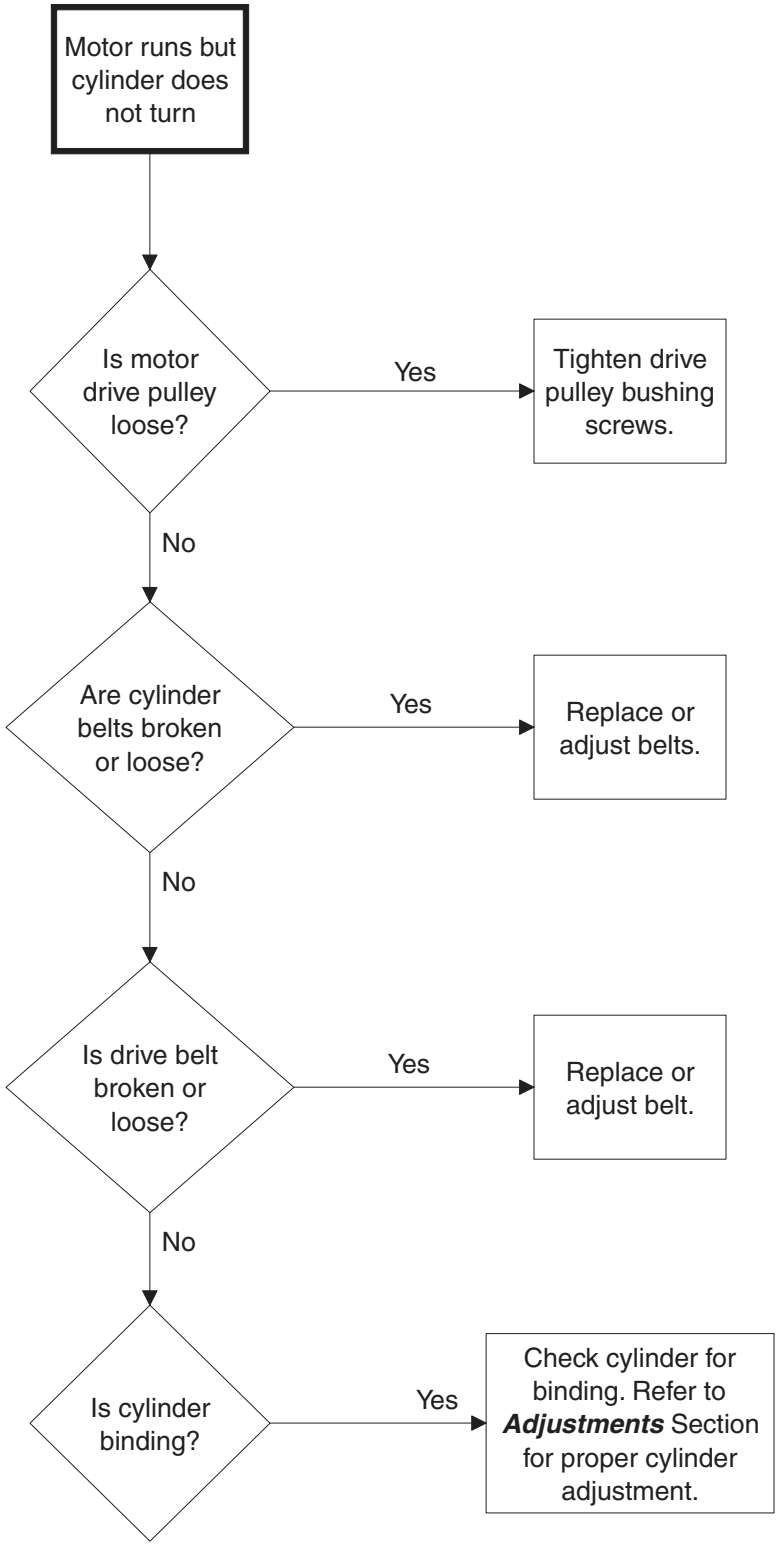
3. Motor Runs But Cylinder Does Not Turn



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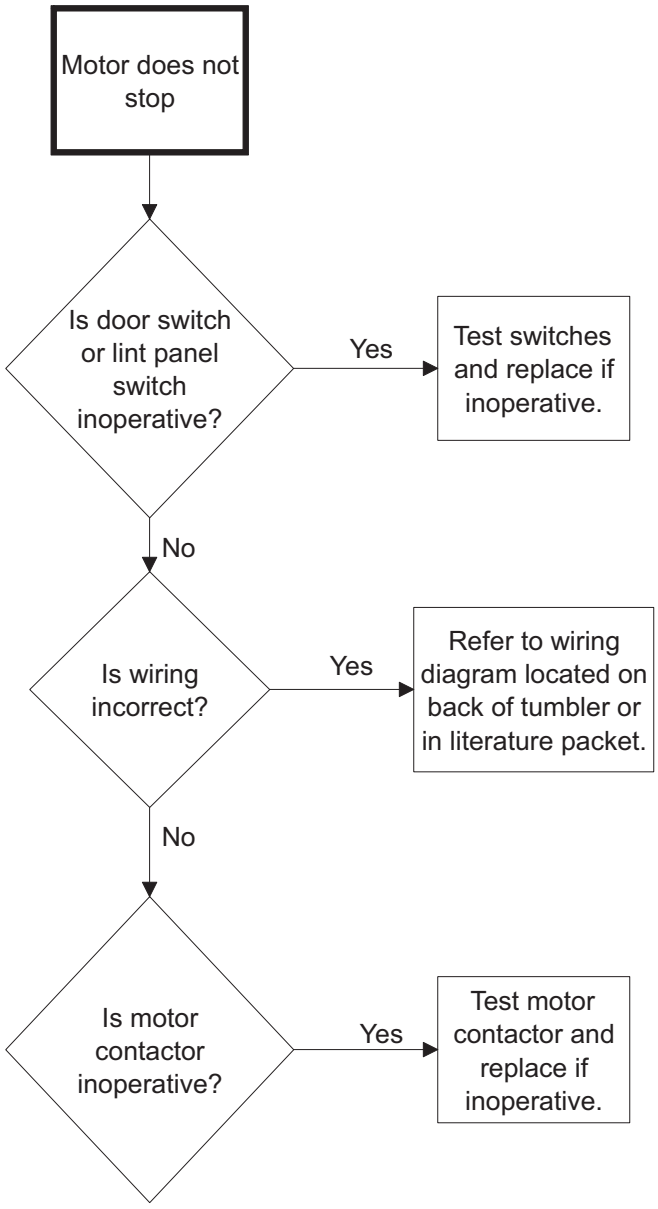
4. Motor Does Not Stop


Motor does not stop
Is door switch or lint panel switch inoperative?
Yes
Test switches and replace if inoperative.
No
Is wiring incorrect?
Yes
Refer to wiring diagram located on back of tumbler or in literature packet.
No
Is motor contactor inoperative?
Yes
Test motor contactor and replace if inoperative.

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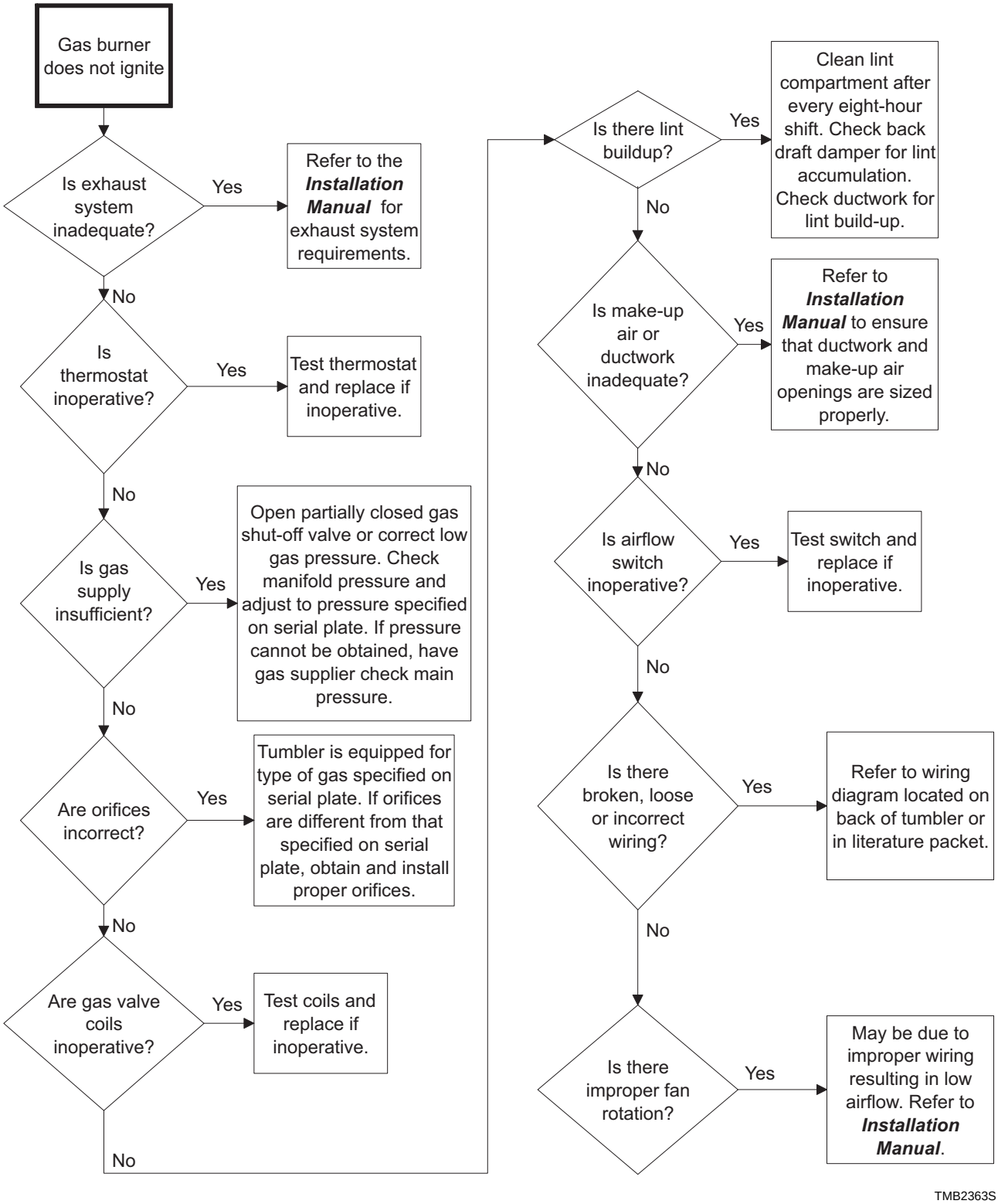
5. Gas Burner Does Not Ignite


Gas burner does not ignite
Is exhaust system inadequate?
Yes
Refer to the ***Installation Manual*** for exhaust system requirements.
No
Is thermostat inoperative?
Yes
Test thermostat and replace if inoperative.
No
Is gas supply insufficient?
Yes
Open partially closed gas shut-off valve or correct low gas pressure. Check manifold pressure and adjust to pressure specified on serial plate. If pressure cannot be obtained, have gas supplier check main pressure.
No
Are orifices incorrect?
Yes
Tumbler is equipped for type of gas specified on serial plate. If orifices are different from that specified on serial plate, obtain and install proper orifices.
No
Are gas valve coils inoperative?
Yes
Test coils and replace if inoperative.
No
Is there lint buildup?
Yes
Clean lint compartment after every eight-hour shift. Check back draft damper for lint accumulation. Check ductwork for lint build-up.
No
Is make-up air or ductwork inadequate?
Yes
Refer to ***Installation Manual*** to ensure that ductwork and make-up air openings are sized properly.
No
Is airflow switch inoperative?
Yes
Test switch and replace if inoperative.
No
Is there broken, loose or incorrect wiring?
Yes
Refer to wiring diagram located on back of tumbler or in literature packet.
No
Is there improper fan rotation?
Yes
May be due to improper wiring resulting in low airflow. Refer to ***Installation Manual***.
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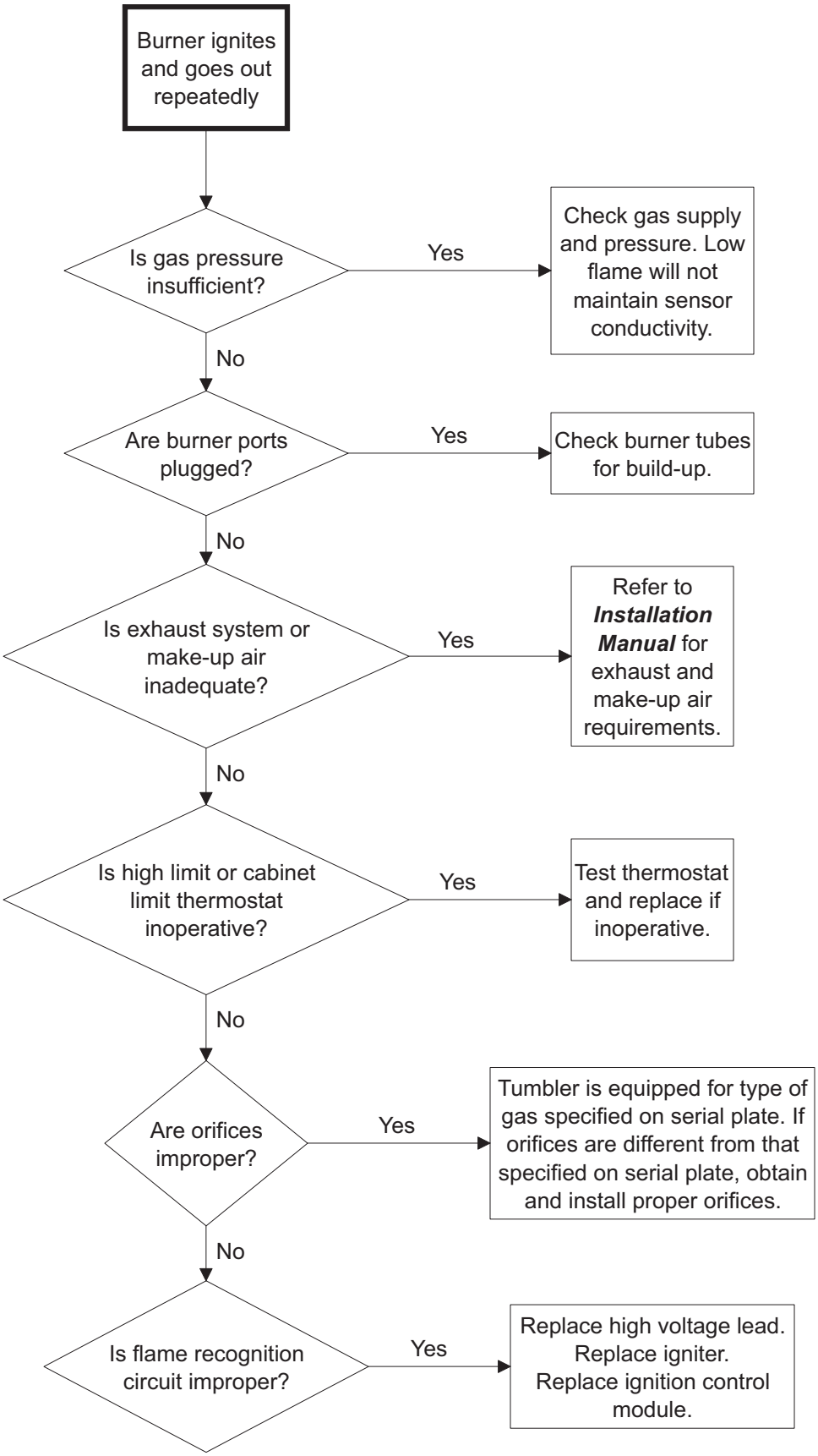
6. Burner Ignites and Goes Out Repeatedly


Burner ignites and goes out repeatedly
Is gas pressure insufficient?
Yes
Check gas supply and pressure. Low flame will not maintain sensor conductivity.
No
Are burner ports plugged?
Yes
Check burner tubes for build-up.
No
Is exhaust system or make-up air inadequate?
Yes
Refer to ***Installation Manual*** for exhaust and make-up air requirements.
No
Is high limit or cabinet limit thermostat inoperative?
Yes
Test thermostat and replace if inoperative.
No
Are orifices improper?
Yes
Tumbler is equipped for type of gas specified on serial plate. If orifices are different from that specified on serial plate, obtain and install proper orifices.
No
Is flame recognition circuit improper?
Yes
Replace high voltage lead.
Replace igniter.
Replace ignition control module.

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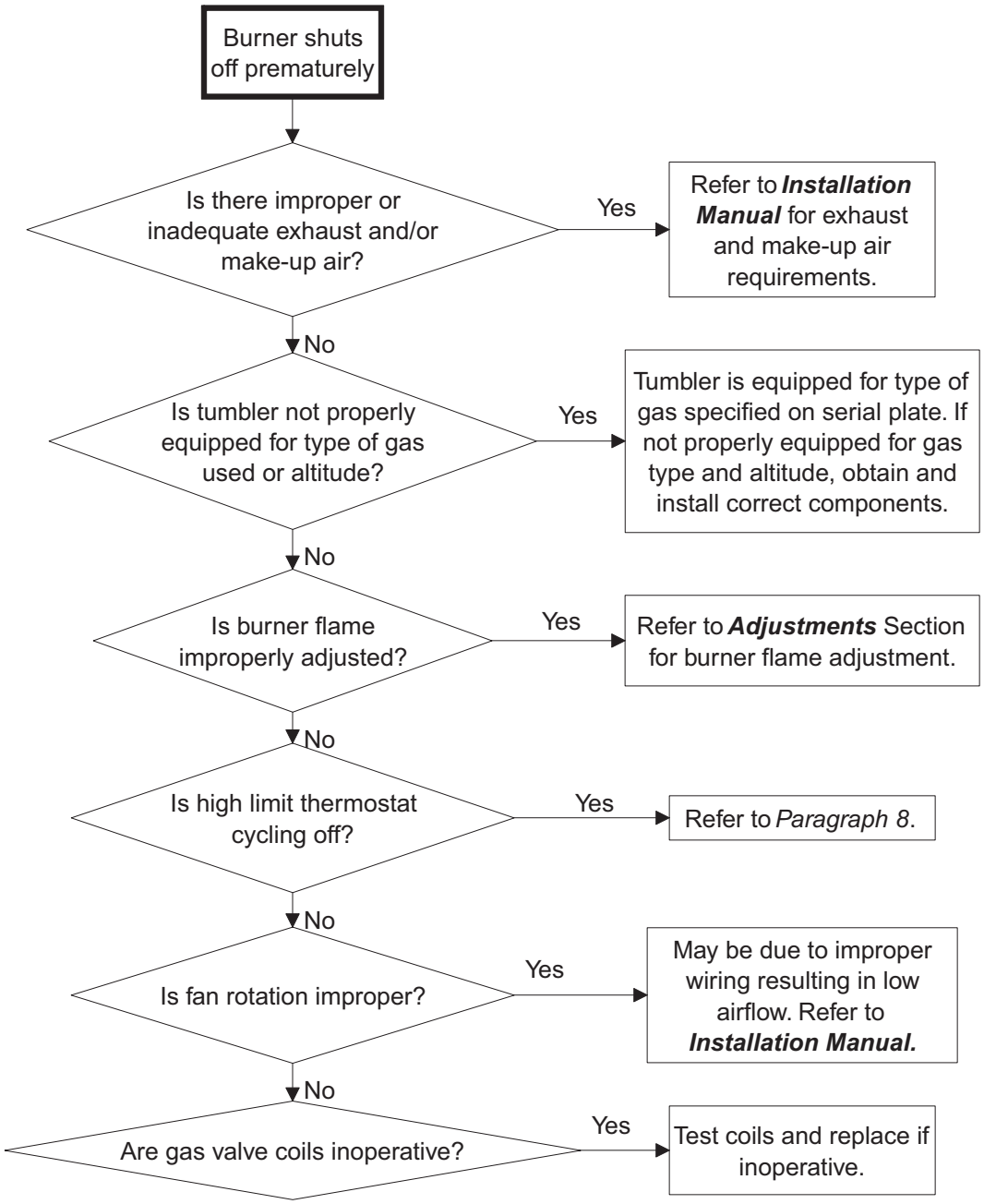
7. Burner Shuts off Prematurely


Burner shuts off prematurely
Is there improper or inadequate exhaust and/or make-up air?
Yes
Refer to ***Installation Manual*** for exhaust and make-up air requirements.
No
Is tumbler not properly equipped for type of gas used or altitude?
Yes
Tumbler is equipped for type of gas specified on serial plate. If not properly equipped for gas type and altitude, obtain and install correct components.
No
Is burner flame improperly adjusted?
Yes
Refer to ***Adjustments*** Section for burner flame adjustment.
No
Is high limit thermostat cycling off?
Yes
Refer to *Paragraph 8*.
No
Is fan rotation improper?
Yes
May be due to improper wiring resulting in low airflow. Refer to ***Installation Manual.***
No
Are gas valve coils inoperative?
Yes
Test coils and replace if inoperative.

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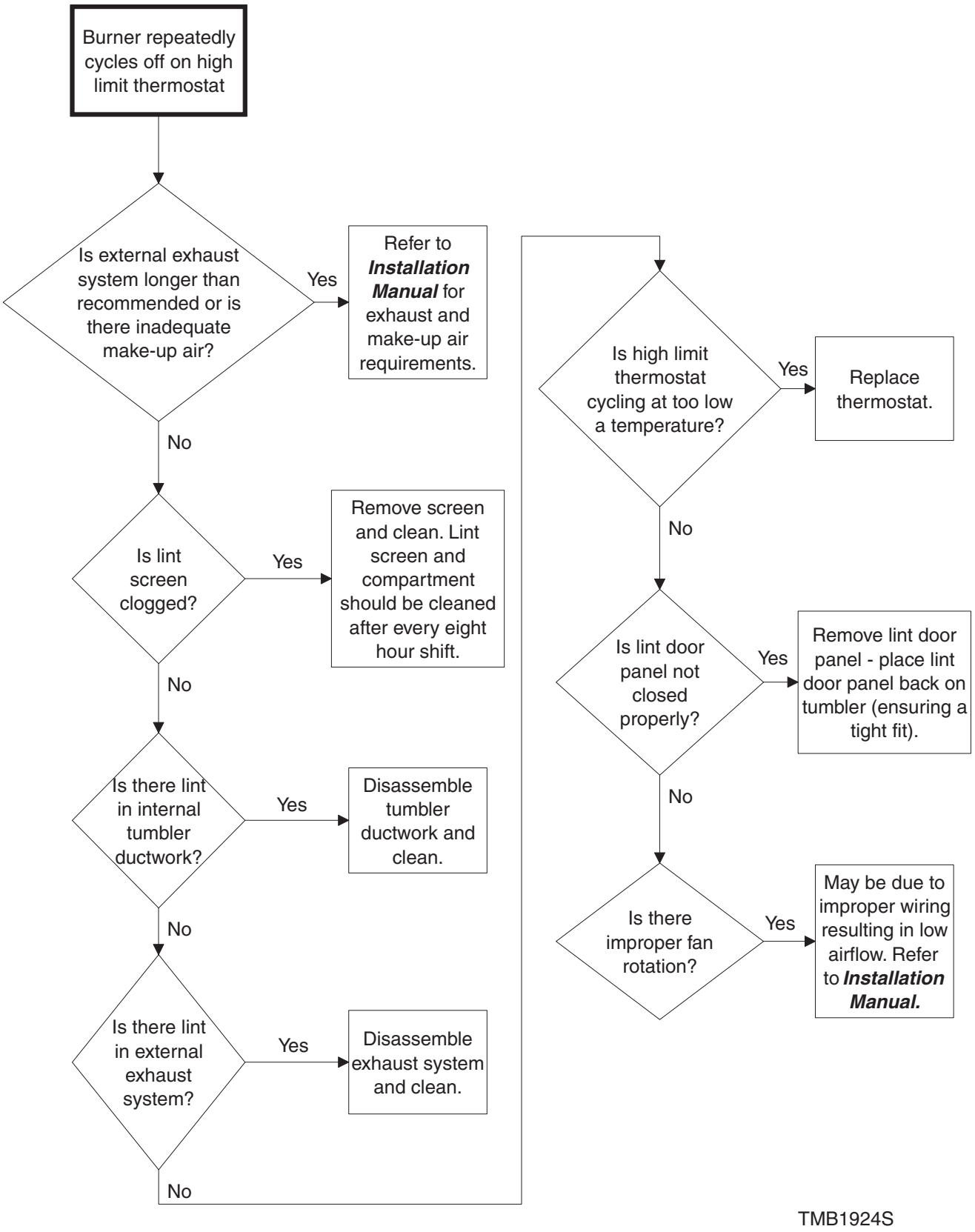
8. Burner Repeatedly Cycles Off On High Limit Thermostat


Burner repeatedly cycles off on high limit thermostat
Is external exhaust system longer than recommended or is there inadequate make-up air?
Yes
Refer to ***Installation Manual*** for exhaust and make-up air requirements.
No
Is lint screen clogged?
Yes
Remove screen and clean. Lint screen and compartment should be cleaned after every eight hour shift.
No
Is there lint in internal tumbler ductwork?
Yes
Disassemble tumbler ductwork and clean.
No
Is there lint in external exhaust system?
Yes
Disassemble exhaust system and clean.
No
Is high limit thermostat cycling at too low a temperature?
Yes
Replace thermostat.
No
Is lint door panel not closed properly?
Yes
Remove lint door panel - place lint door panel back on tumbler (ensuring a tight fit).
No
Is there improper fan rotation?
Yes
May be due to improper wiring resulting in low airflow. Refer to ***Installation Manual.***

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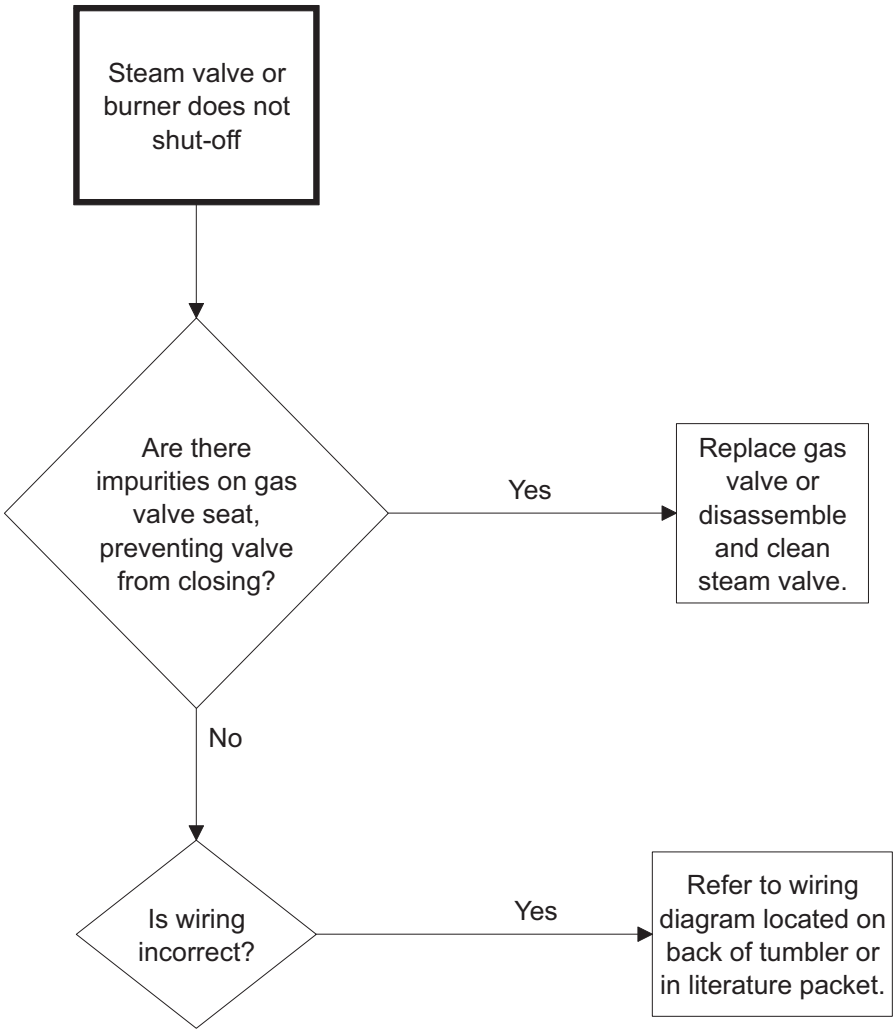
9. Steam Valve or Burner Does Not Shut-off


Steam valve or burner does not shut-off
Are there impurities on gas valve seat, preventing valve from closing?
Yes
Replace gas valve or disassemble and clean steam valve.
No
Is wiring incorrect?
Yes
Refer to wiring diagram located on back of tumbler or in literature packet.

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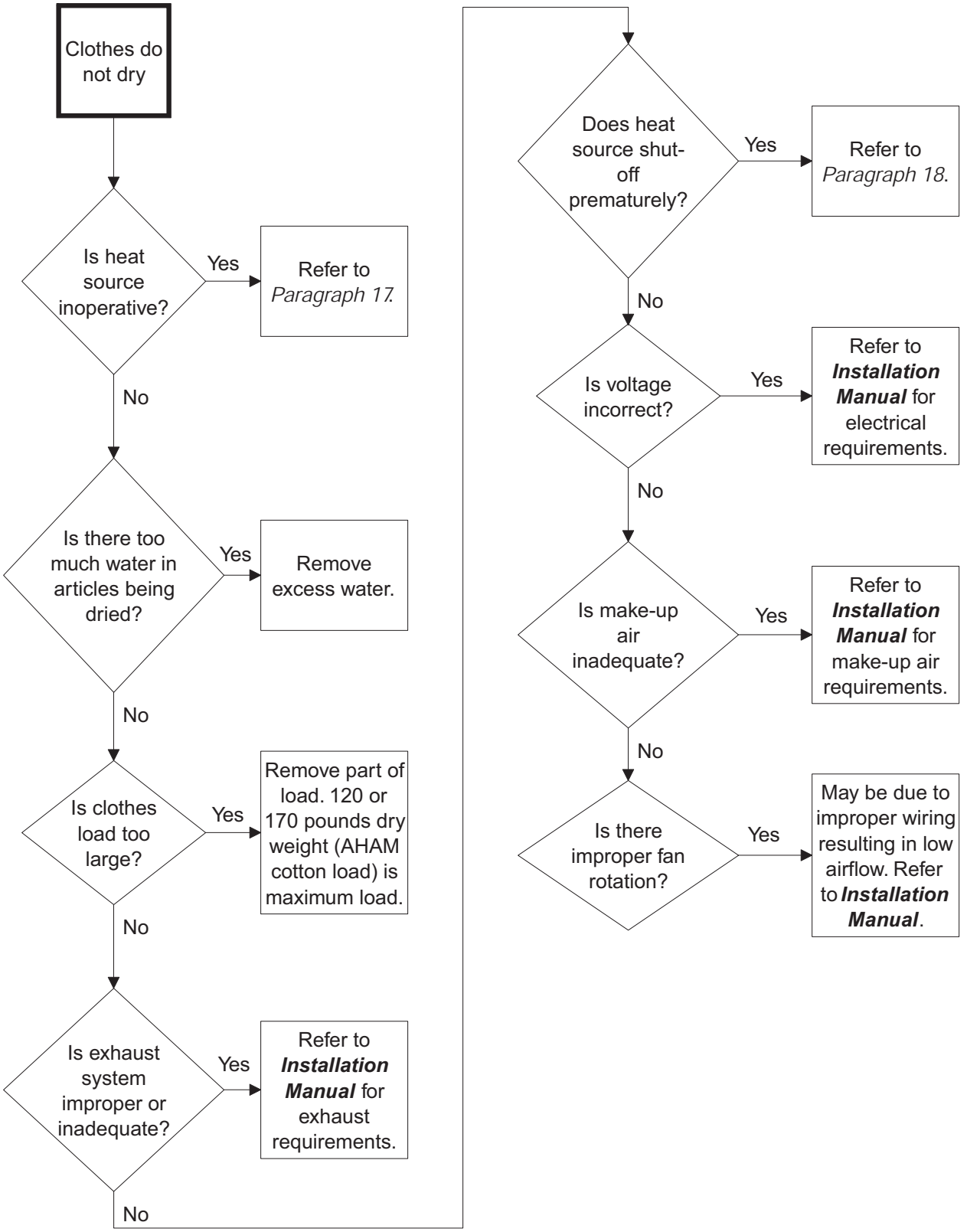
10. Clothes Do Not Dry



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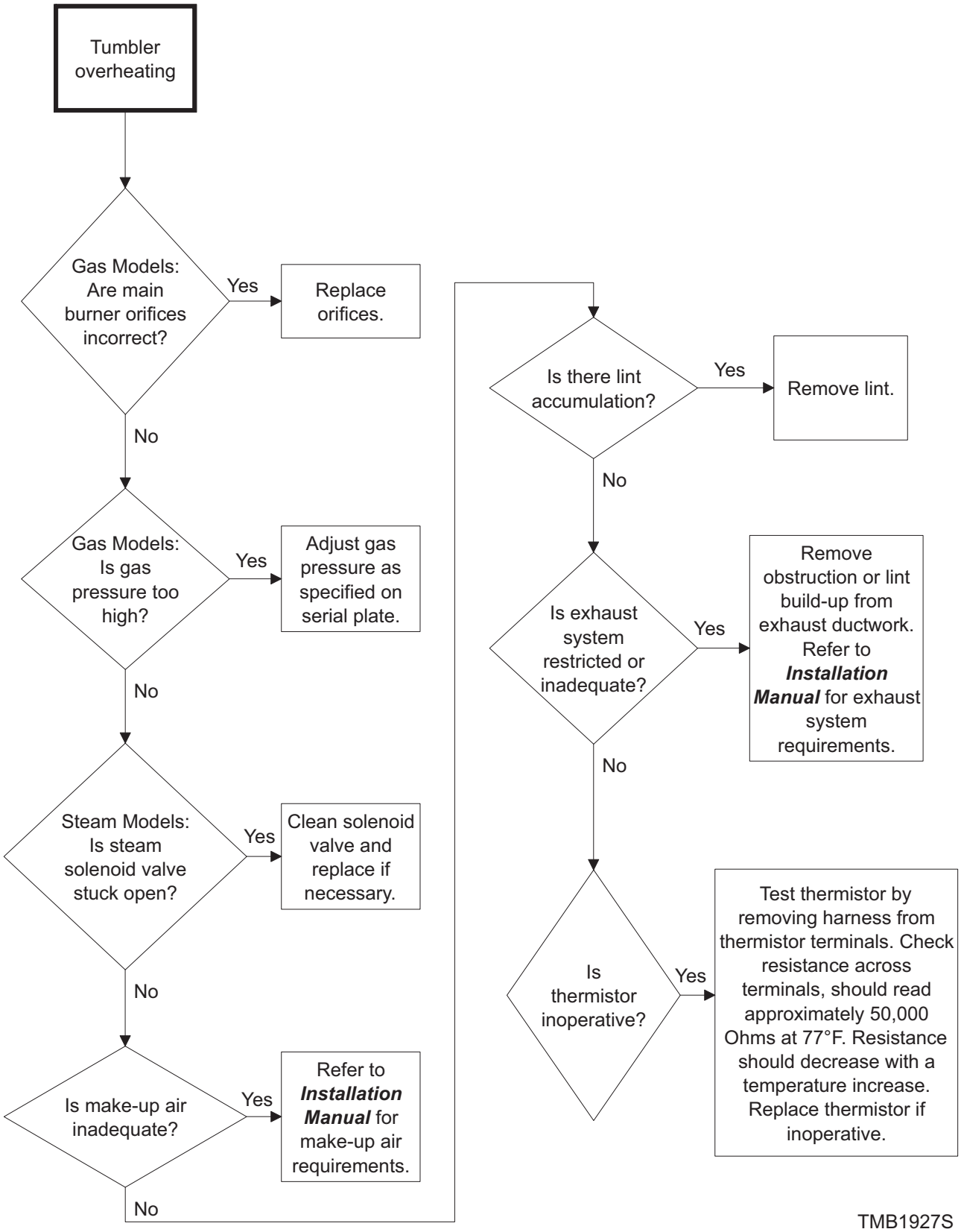
11. Tumbler Overheating


Tumbler overheating
Gas Models: Are main burner orifices incorrect?
Yes
Replace orifices.
No
Gas Models: Is gas pressure too high?
Yes
Adjust gas pressure as specified on serial plate.
No
Steam Models: Is steam solenoid valve stuck open?
Yes
Clean solenoid valve and replace if necessary.
No
Is make-up air inadequate?
Yes
Refer to ***Installation Manual*** for make-up air requirements.
No
Is there lint accumulation?
Yes
Remove lint.
No
Is exhaust system restricted or inadequate?
Yes
Remove obstruction or lint build-up from exhaust ductwork. Refer to ***Installation Manual*** for exhaust system requirements.
No
Is thermistor inoperative?
Yes
Test thermistor by removing harness from thermistor terminals. Check resistance across terminals, should read approximately 50,000 Ohms at 77°F. Resistance should decrease with a temperature increase. Replace thermistor if inoperative.

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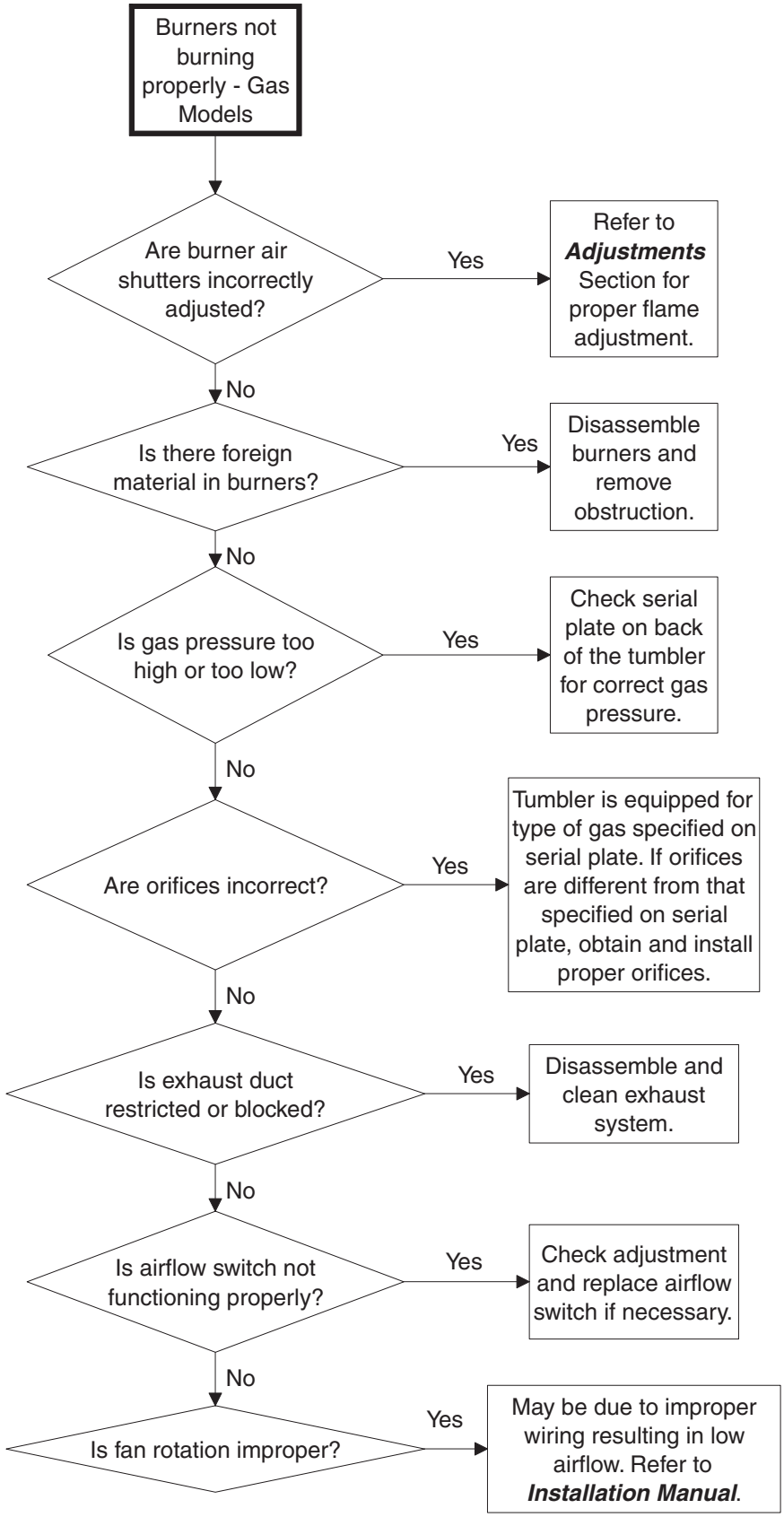
12. Burners Not Burning Properly - Gas Models


Burners not burning properly - Gas Models
Are burner air shutters incorrectly adjusted?
Yes
Refer to ***Adjustments*** Section for proper flame adjustment.
No
Is there foreign material in burners?
Yes
Disassemble burners and remove obstruction.
No
Is gas pressure too high or too low?
Yes
Check serial plate on back of the tumbler for correct gas pressure.
No
Are orifices incorrect?
Yes
Tumbler is equipped for type of gas specified on serial plate. If orifices are different from that specified on serial plate, obtain and install proper orifices.
No
Is exhaust duct restricted or blocked?
Yes
Disassemble and clean exhaust system.
No
Is airflow switch not functioning properly?
Yes
Check adjustment and replace airflow switch if necessary.
No
Is fan rotation improper?
Yes
May be due to improper wiring resulting in low airflow. Refer to ***Installation Manual***.

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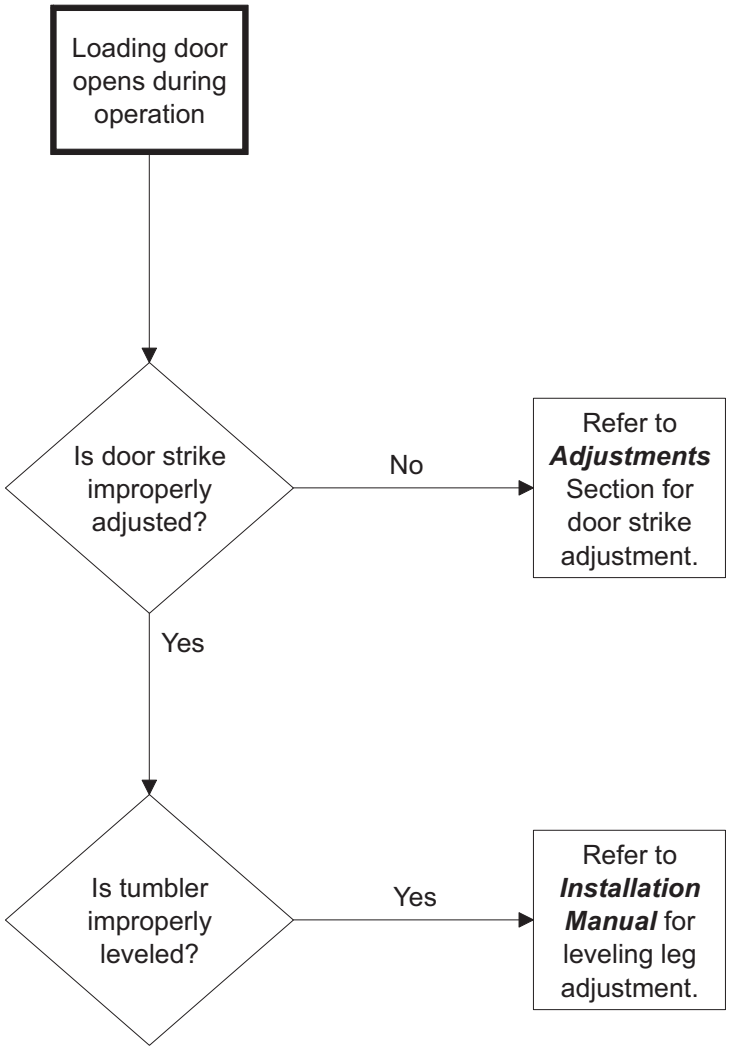
13. Loading Door Opens During Operation


Loading door opens during operation
Is door strike improperly adjusted?
No
Refer to ***Adjustments*** Section for door strike adjustment.
Yes
Is tumbler improperly leveled?
Yes
Refer to ***Installation Manual*** for leveling leg adjustment.

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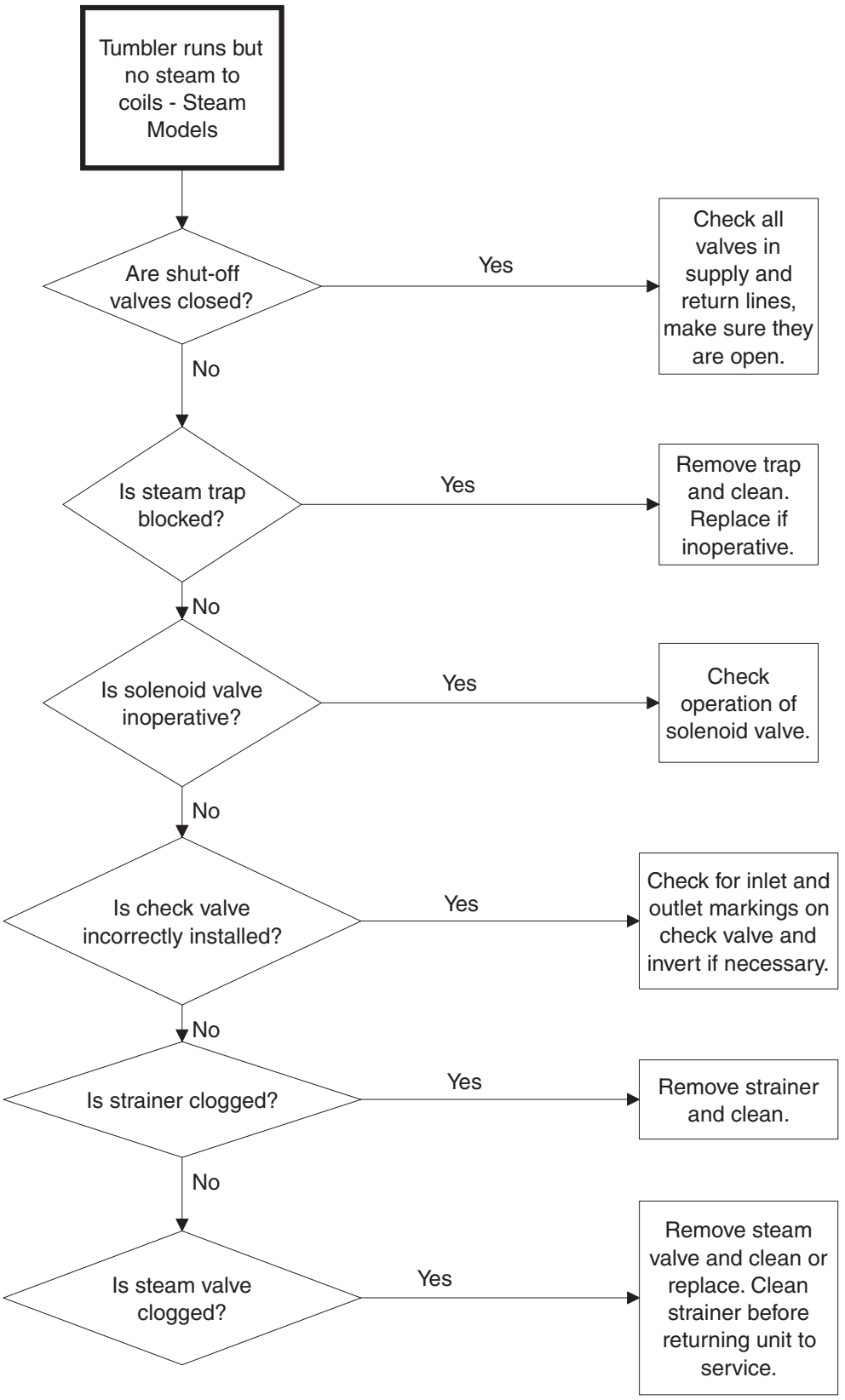
14. Tumbler Runs But No Steam To Coils - Steam Models


Tumbler runs but no steam to coils - Steam Models
Are shut-off valves closed?
Yes
Check all valves in supply and return lines, make sure they are open.
No
Is steam trap blocked?
Yes
Remove trap and clean. Replace if inoperative.
No
Is solenoid valve inoperative?
Yes
Check operation of solenoid valve.
No
Is check valve incorrectly installed?
Yes
Check for inlet and outlet markings on check valve and invert if necessary.
No
Is strainer clogged?
Yes
Remove strainer and clean.
No
Is steam valve clogged?
Yes
Remove steam valve and clean or replace. Clean strainer before returning unit to service.

TMB1929S

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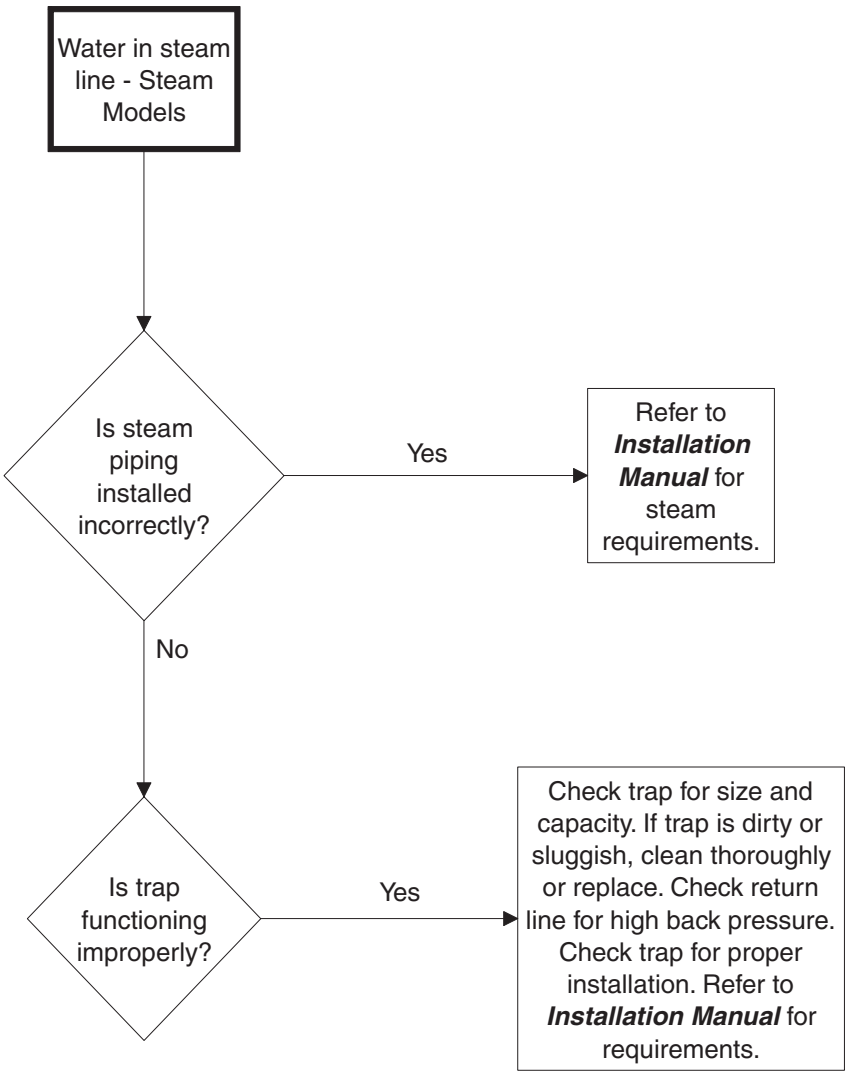
15. Water In Steam Line - Steam Models


Water in steam line - Steam Models
Is steam piping installed incorrectly?
Yes
Refer to ***Installation Manual*** for steam requirements.
No
Is trap functioning improperly?
Yes
Check trap for size and capacity. If trap is dirty or sluggish, clean thoroughly or replace. Check return line for high back pressure. Check trap for proper installation. Refer to ***Installation Manual*** for requirements.

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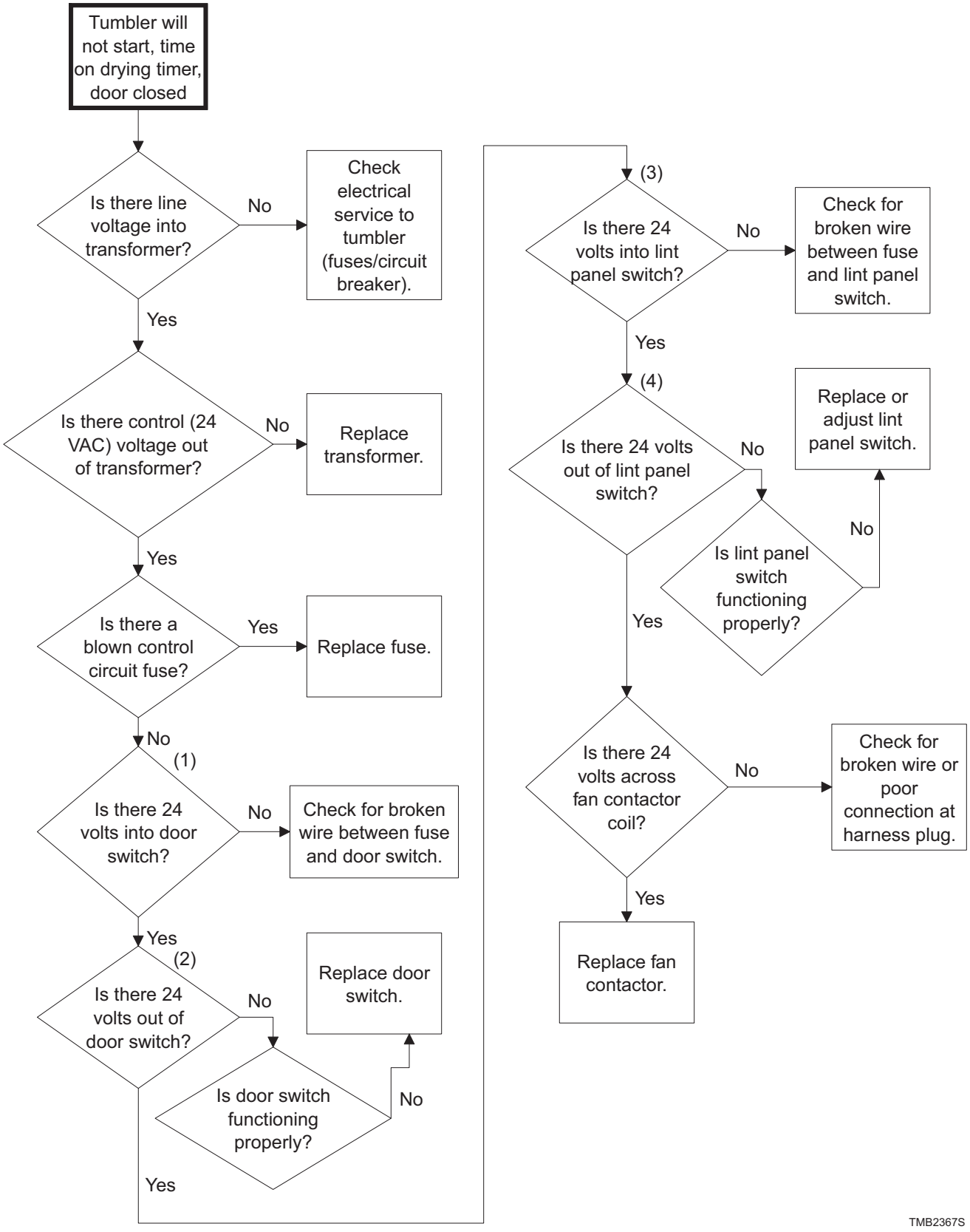
16. Tumbler Will Not Start, Time On Drying Timer, Door Closed



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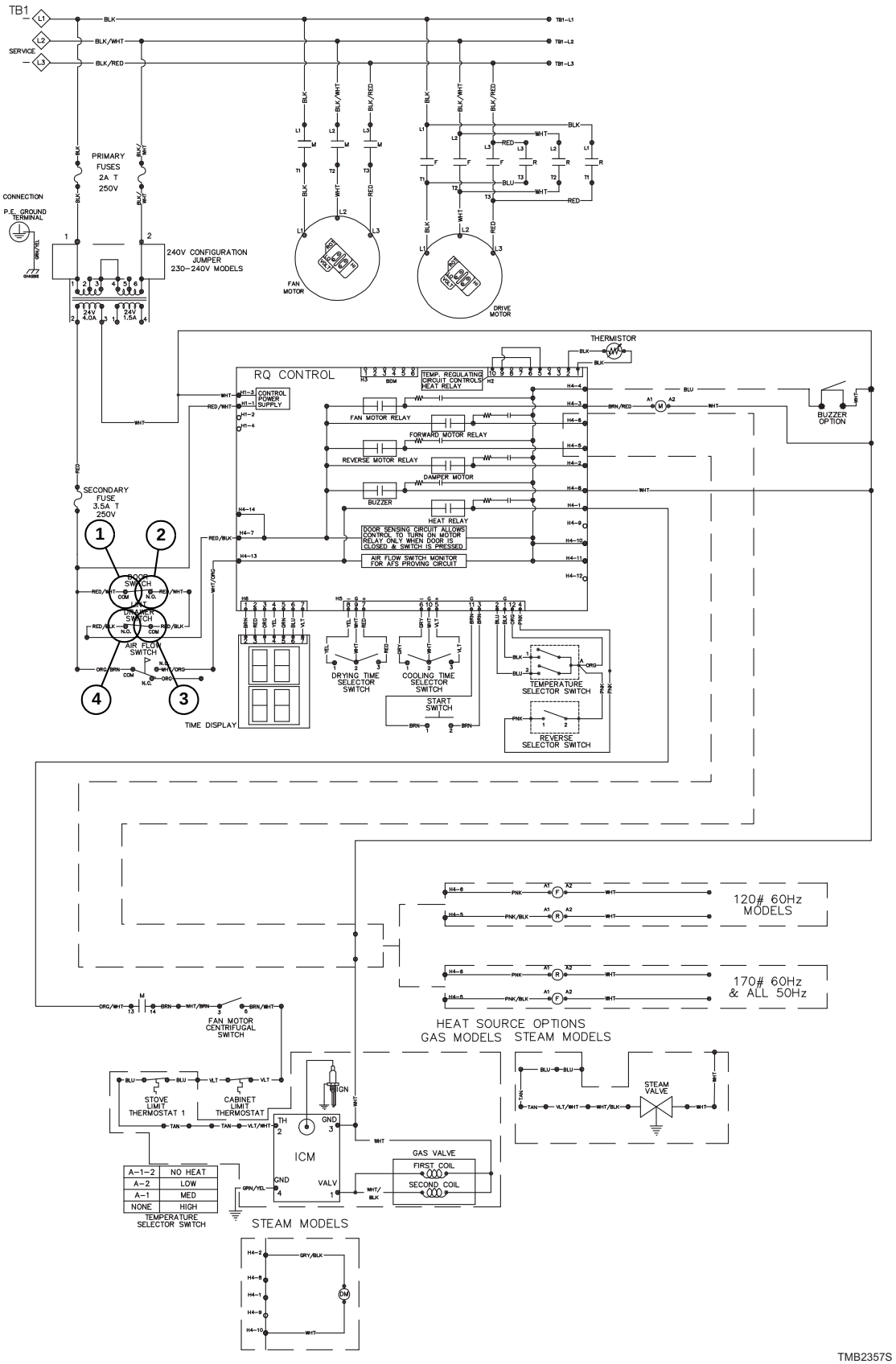
Tumbler Will Not Start, Time On Drying Timer, Door Closed RQ Control



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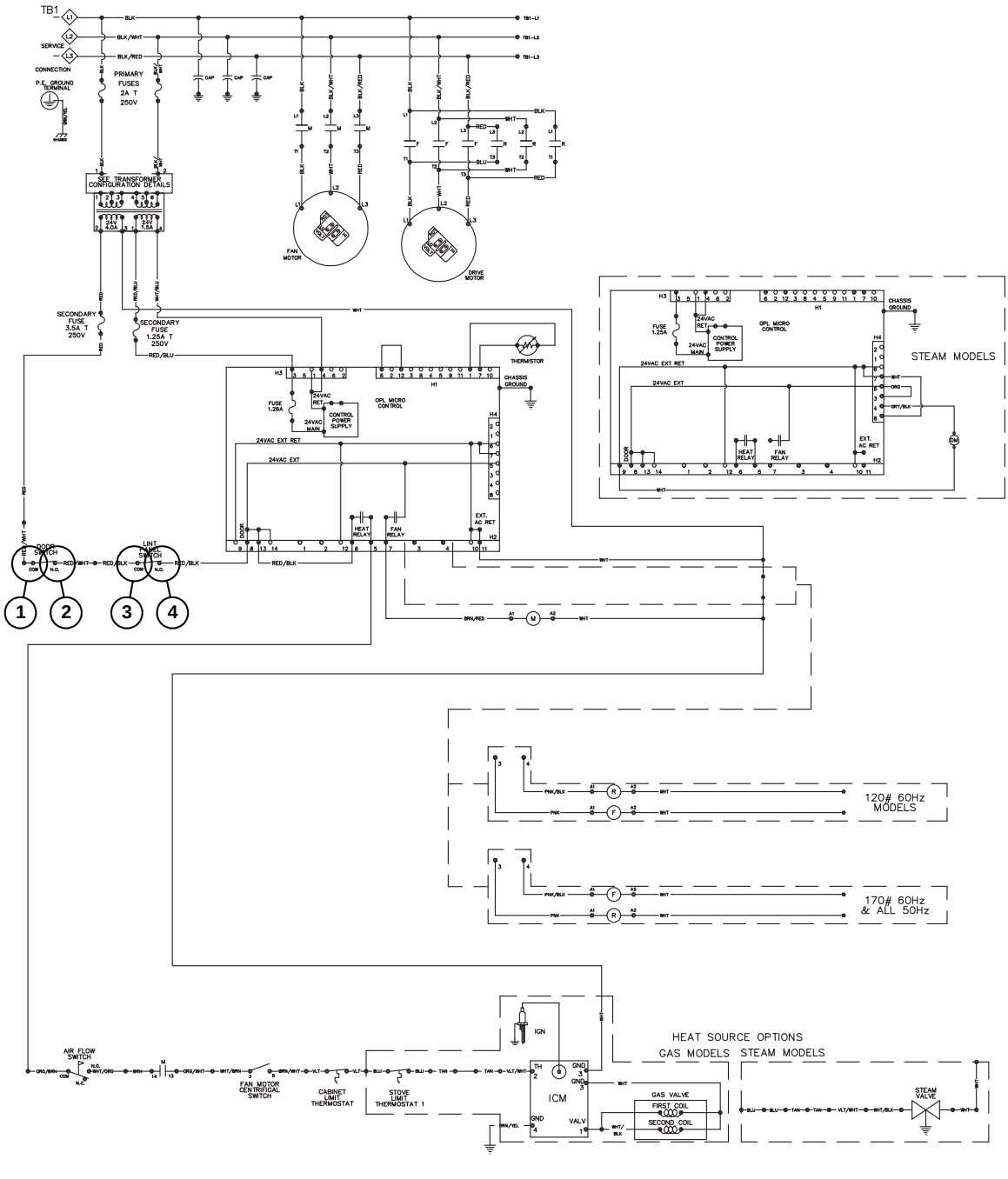
Tumbler Will Not Start, Time On Drying Timer, Door Closed RM Control



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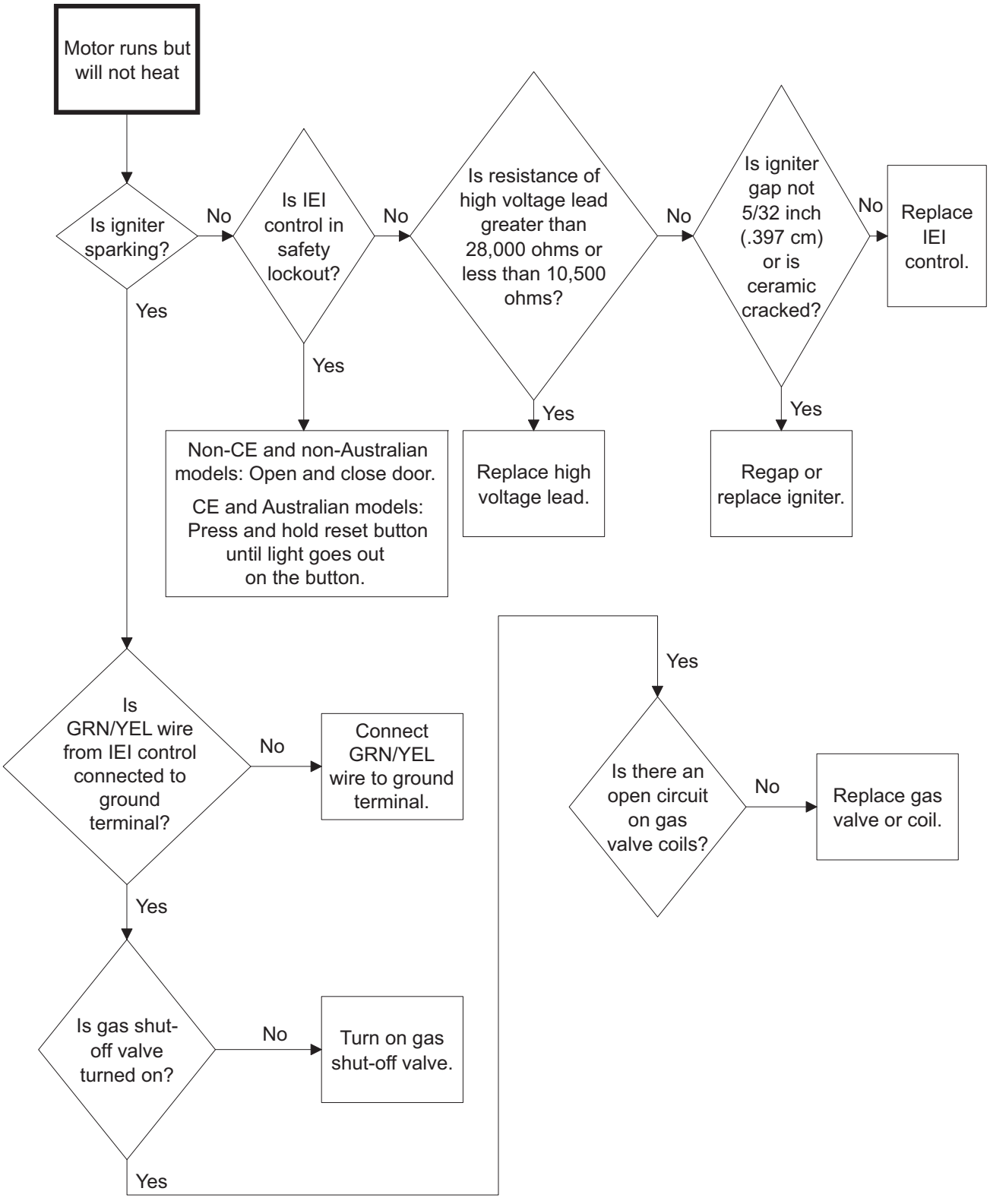
17. Motor Runs But Will Not Heat


Motor runs but will not heat
Is igniter sparking?
No
Is IEI control in safety lockout?
No
Is resistance of high voltage lead greater than 28,000 ohms or less than 10,500 ohms?
No
Is igniter gap not 5/32 inch (.397 cm) or is ceramic cracked?
No
Replace IEI control.
Yes
Yes
Non-CE and non-Australian models: Open and close door.
CE and Australian models: Press and hold reset button until light goes out on the button.
Yes
Replace high voltage lead.
Yes
Regap or replace igniter.
Is GRN/YEL wire from IEI control connected to ground terminal?
No
Connect GRN/YEL wire to ground terminal.
Yes
Is gas shut-off valve turned on?
No
Turn on gas shut-off valve.
Yes
Yes
Is there an open circuit on gas valve coils?
No
Replace gas valve or coil.

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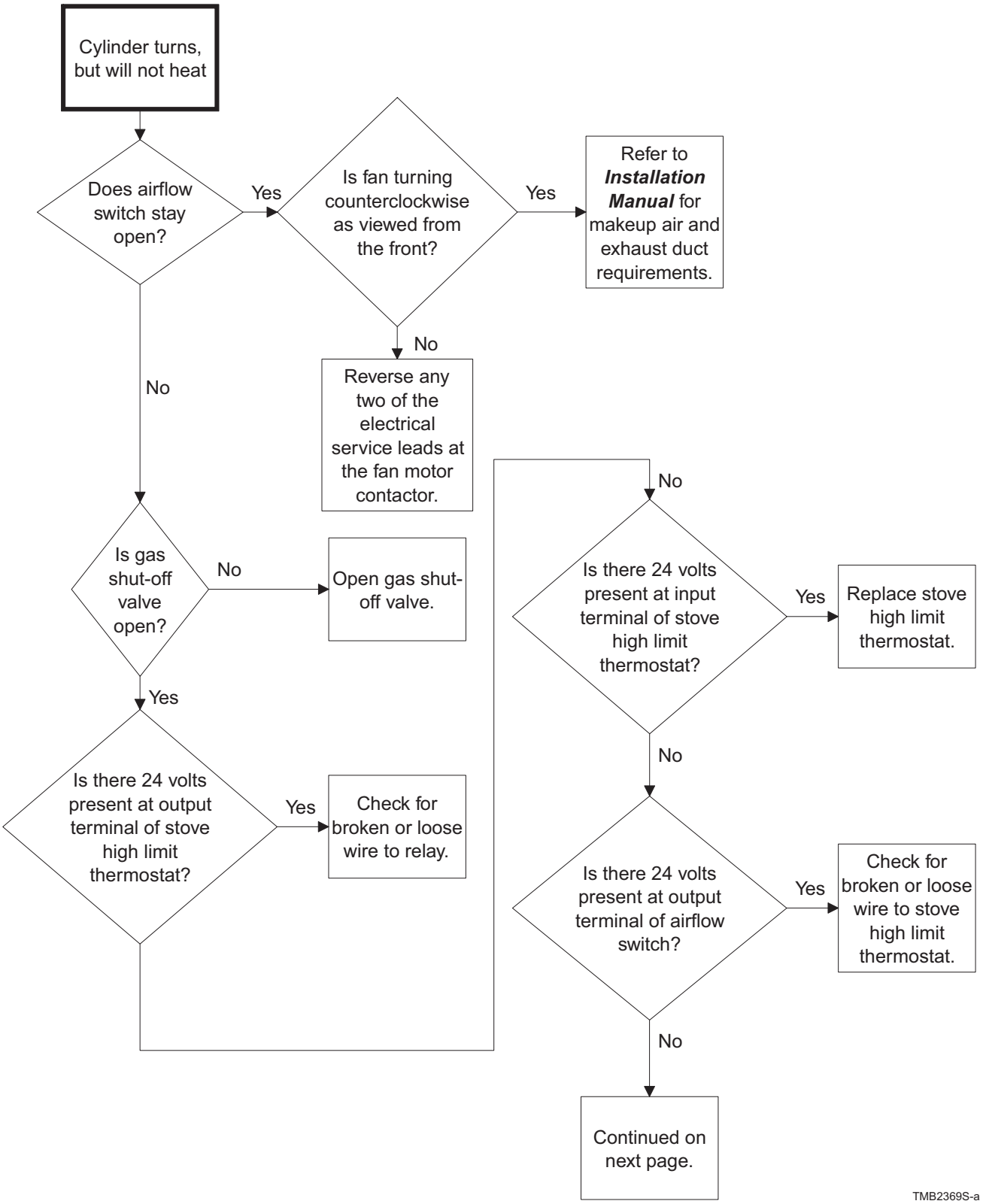
18. Cylinder Turns, But Will Not Heat


Cylinder turns, but will not heat
Does airflow switch stay open?
Yes
Is fan turning counterclockwise as viewed from the front?
Yes
Refer to ***Installation Manual*** for makeup air and exhaust duct requirements.
No
Reverse any two of the electrical service leads at the fan motor contactor.
No
Is gas shut-off valve open?
No
Open gas shut-off valve.
Yes
Is there 24 volts present at output terminal of stove high limit thermostat?
Yes
Check for broken or loose wire to relay.
No
Is there 24 volts present at input terminal of stove high limit thermostat?
Yes
Replace stove high limit thermostat.
No
Is there 24 volts present at output terminal of airflow switch?
Yes
Check for broken or loose wire to stove high limit thermostat.
No
Continued on next page.
TMB2369S-a

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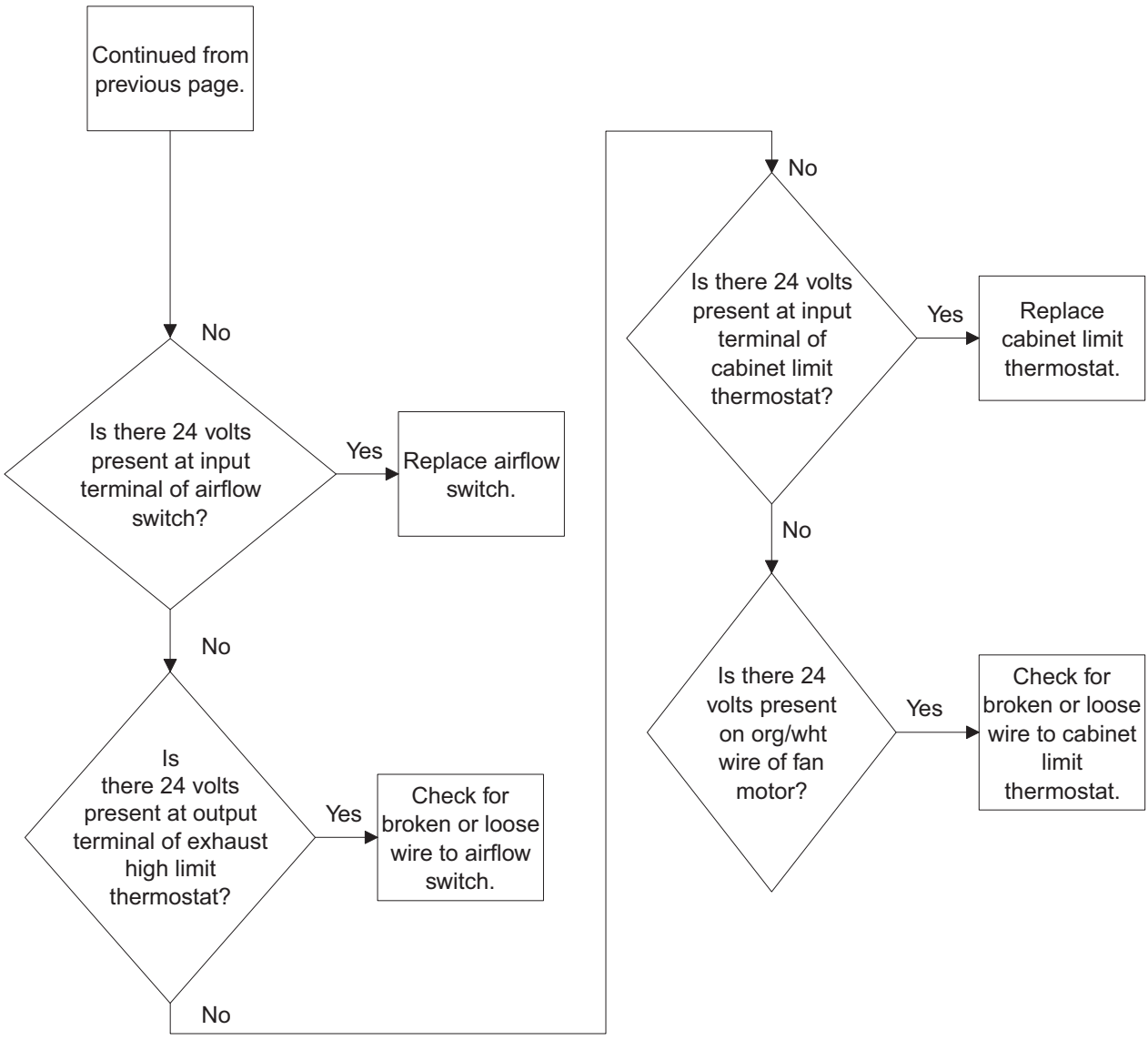
18. Cylinder Turns, But Will Not Heat (continued)


Continued from previous page.
No
Is there 24 volts present at input terminal of airflow switch?
Yes
Replace airflow switch.
No
Is there 24 volts present at output terminal of exhaust high limit thermostat?
Yes
Check for broken or loose wire to airflow switch.
No
No
Is there 24 volts present at input terminal of cabinet limit thermostat?
Yes
Replace cabinet limit thermostat.
No
Is there 24 volts present on org/wht wire of fan motor?
Yes
Check for broken or loose wire to cabinet limit thermostat.

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Section 4
Adjustments

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

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19. Main Gas Burner Air Inlet Shutters (All Gas Models)

Refer to *Figure 1*.

CAUTION

The air inlet shutters on the burner must be adjusted so sufficient primary air is metered into the system for proper combustion and maximum efficiency. Before adjusting the inlet shutter be sure that all lint is removed from lint compartment and lint screen.

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Air inlet shutter adjustments will vary from location to location and will depend on the vent system, number of units installed, make-up air and line gas pressure. Opening the shutter increases the amount of primary air supplied to the burner while closing the shutter decreases the air supply. Adjust the air shutter as follows:

a. Remove access panel.
b. Start tumbler and check the flame pattern. Correct air and gas mixture is indicated if the flame pattern is primarily blue, with small yellow tips, and bends to the left of the heater section. Too little air is indicated if the flame is yellow, lazy and smokey.
c. To adjust the air inlet shutter, loosen locking screw.
d. Slide shutter in or out as necessary to obtain desired flame intensity.
e. After shutter is adjusted, tighten locking screw securely.
f. If the flame pattern is straight up, insufficient air is flowing through the tumbler. A flame pattern that flares to the right and left

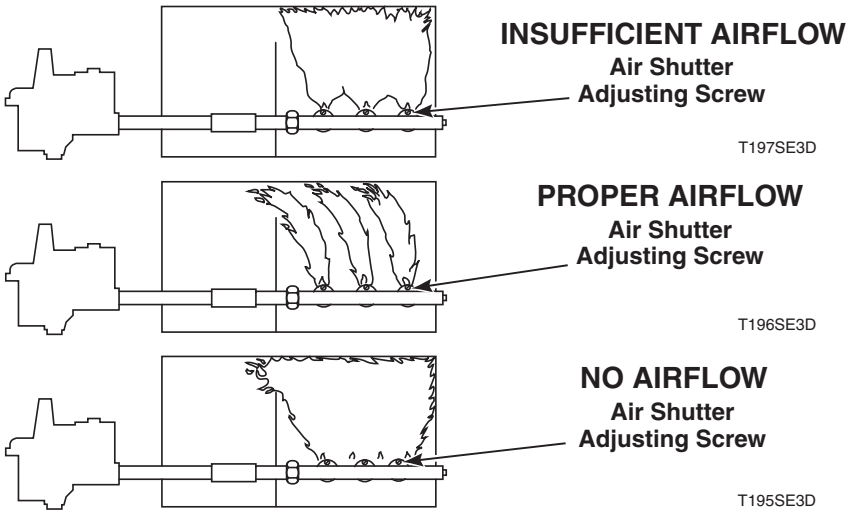

Figure 1

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20. Airflow Switch

The airflow switch is set at the factory for proper operation. No adjustment necessary.

IMPORTANT: Airflow switch vane must remain closed during operation. If it opens and closes during the drying cycle, this indicates insufficient airflow through the tumbler. If switch remains open, or pops open and closed during the cycle, the heating system will shut off. The cylinder and fan will continue to operate even though the airflow switch is indicating insufficient airflow.

21. Loading Door Strike

Refer to *Figure 2*.

The door strike must be adjusted so it has sufficient tension to hold loading door closed against the force of a tumbling load. The door strike is properly adjusted when 8-15 lbs. (17.6-33 kg) of pull is required to open door.

To adjust, open door, loosen nut and turn door strike screw in for less tension or out for more tension. Tighten nut. Refer to *Figure 2*.

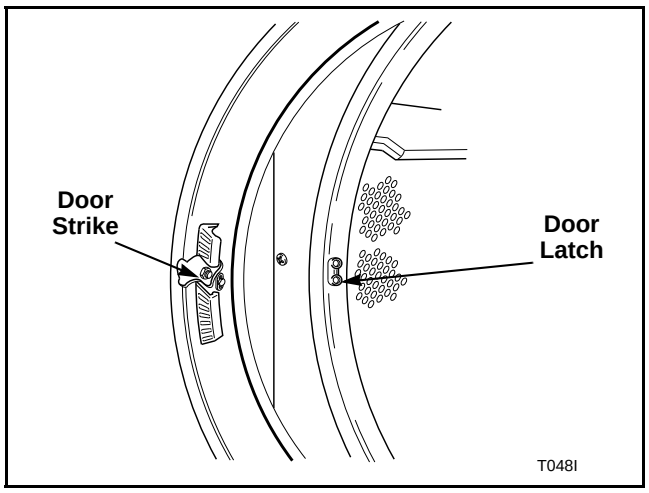

Figure 2

22. Cylinder Belt Tension

120 Pound Models:

NOTE: Belt tension from step pulley to cylinder shaft pulley can be measured to ensure proper installation in one of the following ways:

- **Burroughs Belt Tension Gauge initial reading 70-80 pounds.**
- **Force to deflect belt .38 inch at midspan with initial tensioning 6.5 pounds.**
- **Burroughs Belt Tension Gauge reading after run 55-65 pounds.**

170 Pound Models:

NOTE: Belt tension from cylinder drive motor pulley to step pulley can be measured to ensure proper installation in one of the following ways:

- **Burroughs Belt Tension Gauge initial reading 60-70 pounds.**
- **Force to deflect belt .38 inch at midspan with initial tensioning 6.0 pounds**
- **Burroughs Belt Tension Gauge reading after run 45-55 pounds.**

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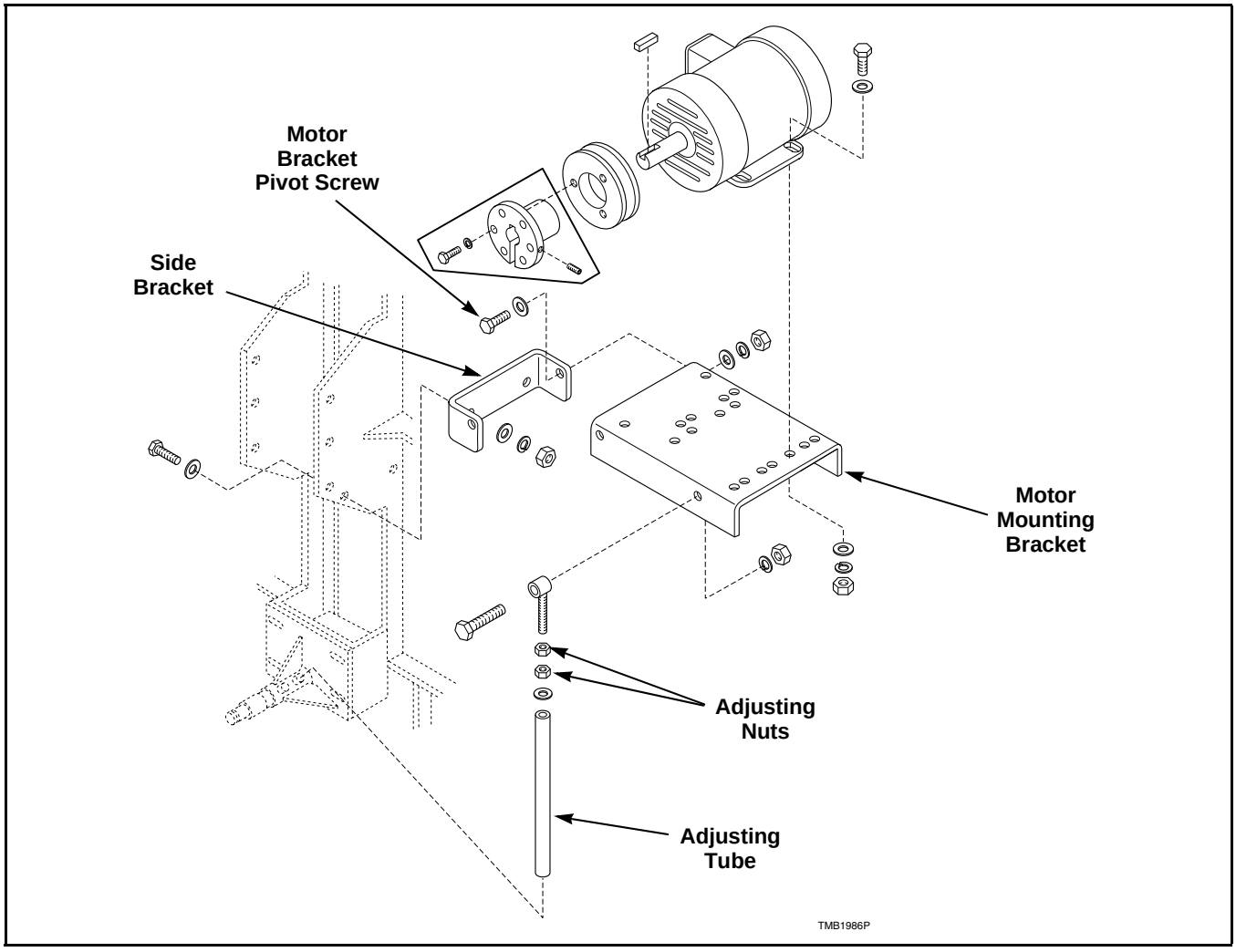

Figure 3

a. Support corner drive guard and remove screws holding corner guard to rear of tumbler.
b. Support drive guard cover and remove screws that hold guard to rear of tumbler.
c. Loosen the four jackshaft assembly attaching screws. Refer to *Figure 4*.
d. Loosen adjusting nuts on outer eyebolt and rotate bottom nut clockwise until proper tension is reached.
e. Retighten all nuts and screws.
f. Readjust drive belt.

IMPORTANT: Adjusting the cylinder belt tension WILL AFFECT the drive belt tension. You MUST check and readjust the drive belt tension after adjusting the cylinder belt tension.

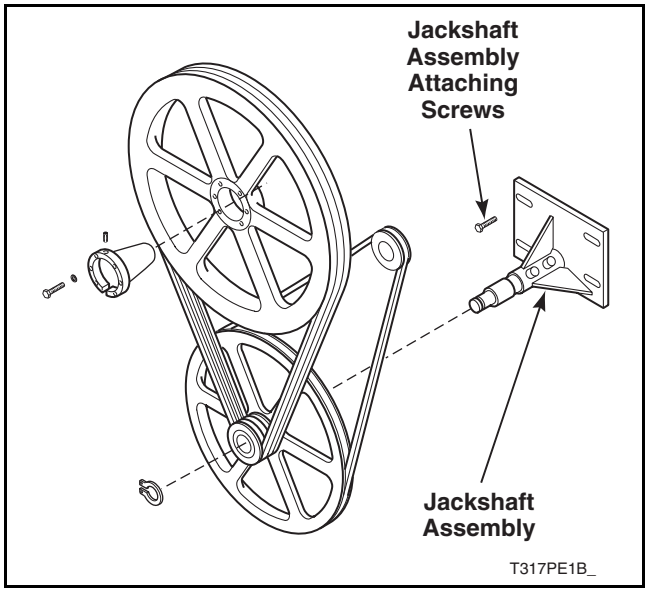

Figure 4

23. Cylinder Clearance

The clearance between the cylinder rim and front panel must be adjusted so the cylinder is centered

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within the front panel opening when the cylinder is fully loaded and is turning. However, the adjustment should be made when the cylinder is empty.

NOTE: If the cylinder is not properly adjusted, the cylinder rim will rub against the front panel.

a. Open loading door.
b. Check the gap between the center of the front panel top flange and the cylinder rim. Proper adjustment is when the gap is 8/32 inch ± 3/32 inch. Refer to *Figure 5*. Perform steps d through i to adjust the cylinder rim/front panel flange clearance.
c. Check the cylinder fore/aft clearance between the inside front of the cylinder and the edge of the front panel flange. Proper adjustment is when the gap is 9/32 inch ± 1/32 inch. Refer to *Figure 5*. Perform steps j through n to adjust the cylinder fore/aft clearance.

Cylinder Rim/Front Panel Flange Clearance Adjustment

a. Support corner drive guard and remove screws holding corner guard to rear of tumbler.
b. Support drive guard cover and remove screws holding guard to rear of tumbler.
c. Loosen rear bearing mounting screws. Refer to *Figure 6*.
d. Loosen the locknuts on rear adjustment screws. Refer to *Figure 6*.
e. Turn the adjusting screws in or out as necessary to obtain proper clearance between cylinder rim and front panel.

NOTE: Turning the adjusting screws clockwise will raise the cylinder and turning them counter-clockwise will lower the cylinder. Turn both screws evenly to adjust top and bottom clearance. Turn one or the other adjusting screw in or out to adjust side clearance.

f. After the cylinder is properly adjusted, tighten the adjusting screw locknuts and the rear bearing mounting screws.
g. Install drive guard cover.

NOTE: If adjusting the trunnion housing fails to correct the clearance, the problem is probably due to a worn trunnion shaft or defective bearings.

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Cylinder Fore/Aft Clearance Adjustment

h. Support corner drive guard and remove screws holding corner guard to rear of tumbler.
i. Support drive guard cover and remove screws holding guard to rear of tumbler.
j. Loosen setscrews in the front bearing assembly collar and rear bearing assembly collar. Refer to *Figure 6*.
k. Move cylinder assembly in or out as necessary to obtain proper clearance between the cylinder and the front panel.
l. After the cylinder is properly adjusted, tighten setscrews in the front and rear bearing assembly collars.
m. Install drive guard cover.

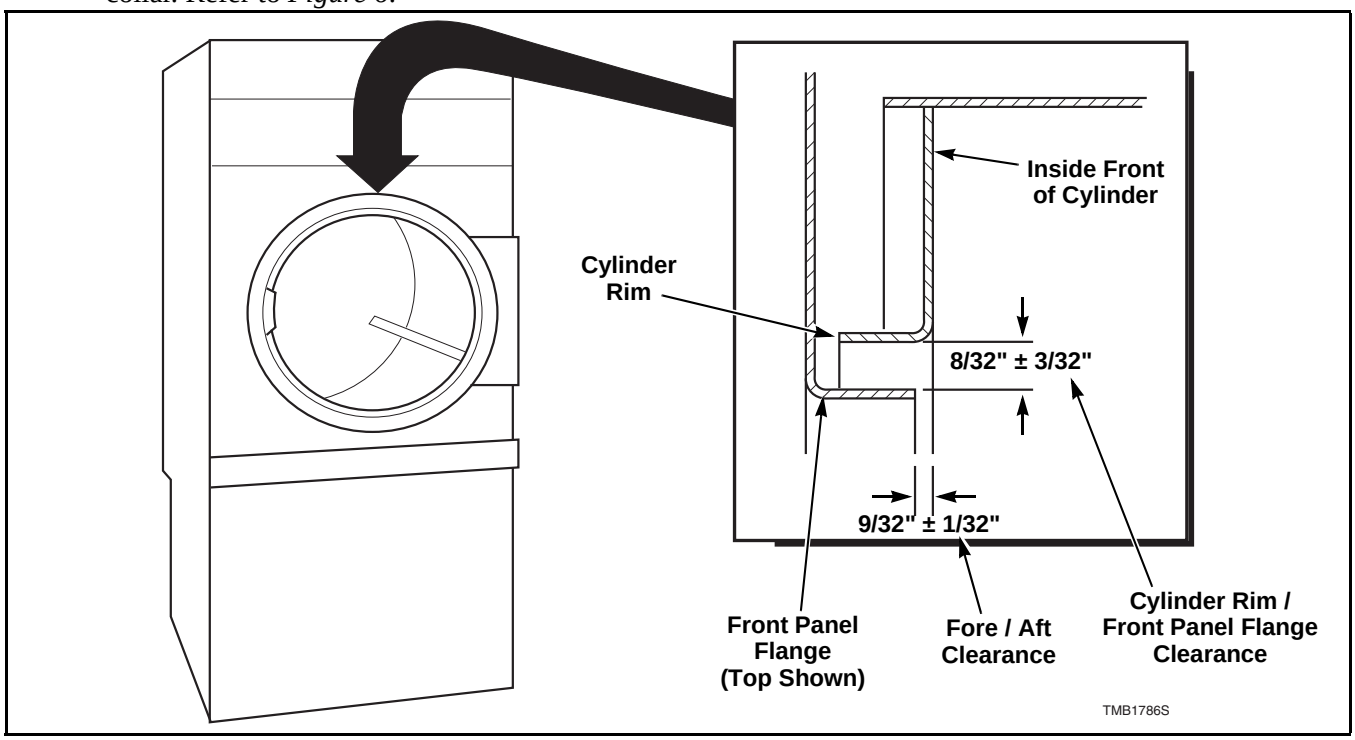

Figure 5

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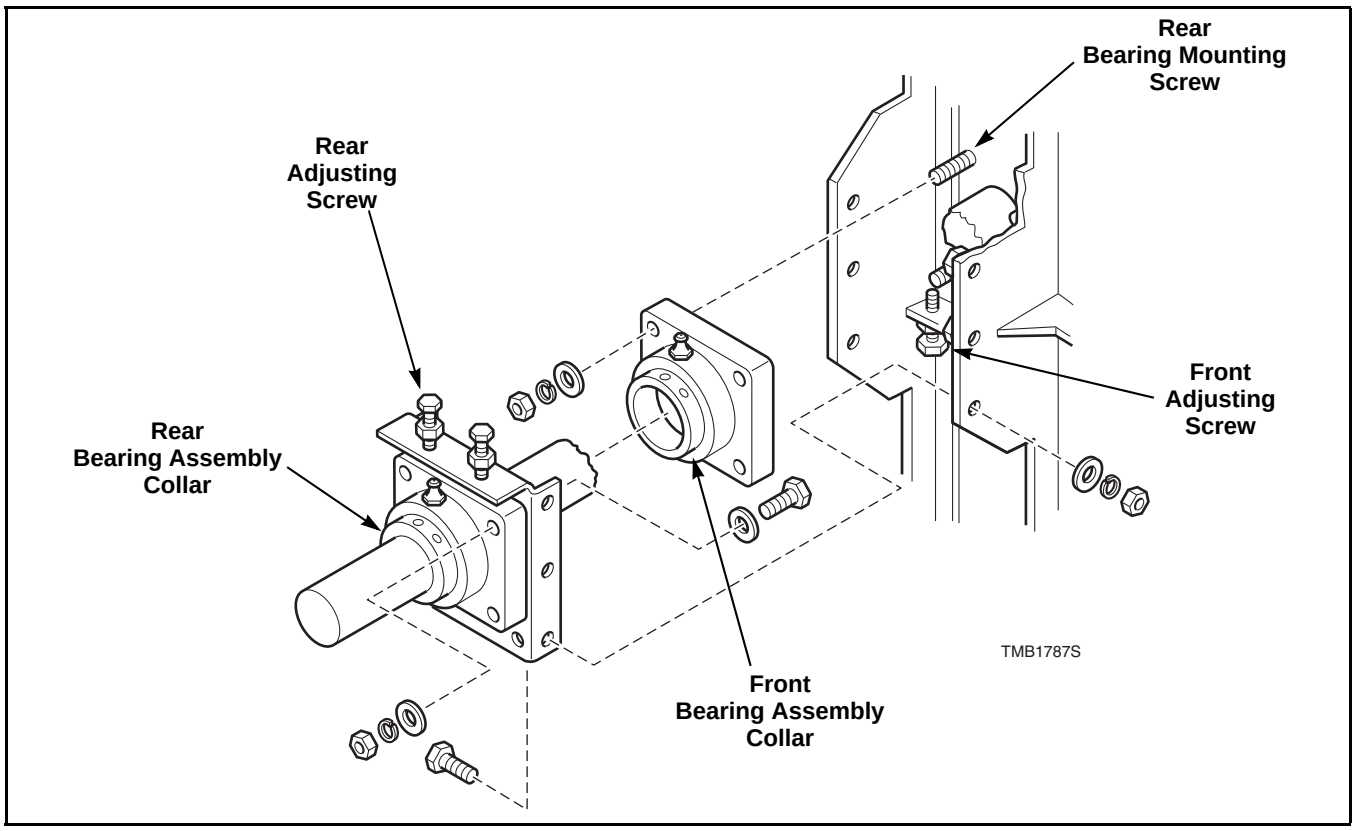

Figure 6

24. Drive Belt Tension

Refer to *Figure 3*.

NOTE: If cylinder belts will be adjusted, service them before drive belt.

120 Pound Models:

NOTE: Belt tension from step pulley to cylinder shaft pulley can be measured to ensure proper installation in one of the following ways:

- **Burroughs Belt Tension Gauge initial reading 70-80 pounds.**
- **Force to deflect belt .38 inch at midspan with initial tensioning 6.5 pounds.**
- **Burroughs Belt Tension Gauge reading after run 55-65 pounds.**

170 Pound Models:

NOTE: Belt tension from cylinder drive motor pulley to step pulley can be measured to ensure proper installation in one of the following ways:

- **Burroughs Belt Tension Gauge initial reading 60-70 pounds.**
- **Force to deflect belt .38 inch at midspan with initial tensioning 6.0 pounds**
- **Burroughs Belt Tension Gauge reading after run 45-55 pounds.**
  a. Support corner drive guard and remove screws holding corner guard to rear of tumbler.
  b. Support drive guard cover and remove screws holding guard to rear of tumbler.
  c. Reinstall drive guard.
  d. Loosen the two motor bracket pivot screws. Refer to *Figure 3*.
  e. Turn the adjusting nuts clockwise until proper tension is reached. Refer to *Figure 3*.
  f. Retighten all nuts and screws.

25. Fan Belt Tension

Refer to *Figure 7*.

120 Pound Models:

NOTE: Belt tension from fan motor pulley to fan shaft pulley can be measured to ensure proper installation in one of the following ways:

- **Burroughs Belt Tension Gauge initial reading 60-70 pounds.**
- **Force to deflect belt .38 inch at midspan with initial tensioning 7.0 pounds**
- **Burroughs Belt Tension Gauge reading after run 50-55 pounds.**

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170 Pound Models:

NOTE: Belt tension from fan motor pulley to fan shaft pulley can be measured to ensure proper installation in one of the following ways:

- **Burroughs Belt Tension Gauge initial reading 75-80 pounds.**
- **Force to deflect belt .38 inch at midspan with initial tensioning 5.0 pounds**
- **Burroughs Belt Tension Gauge reading after run 60-65 pounds.**

a. Support corner drive guard and remove screws holding corner guard to rear of tumbler.
b. Support drive guard cover and remove screws holding guard to rear of tumbler.
c. Loosen the two mounting bracket attaching screws.
d. Raise or lower eye bolt until proper tension is reached.
e. Retighten all nuts and screws.

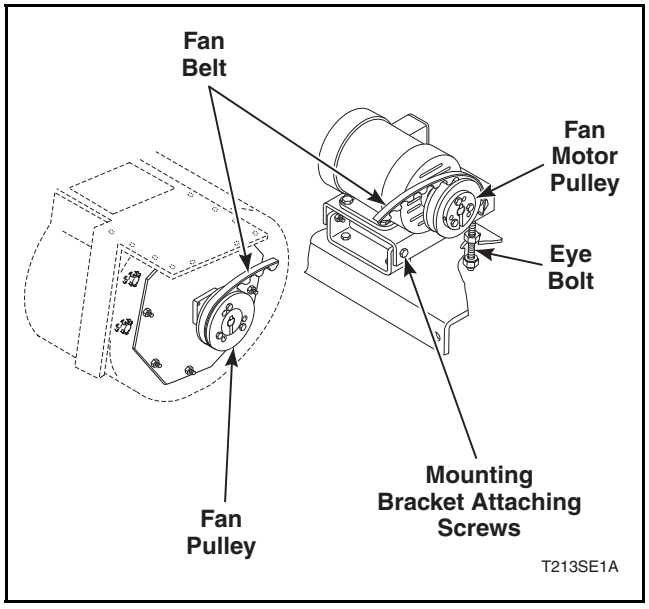

Figure 7

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Section 5
Hybrid Timer Control Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W002

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26. Control Has No Display

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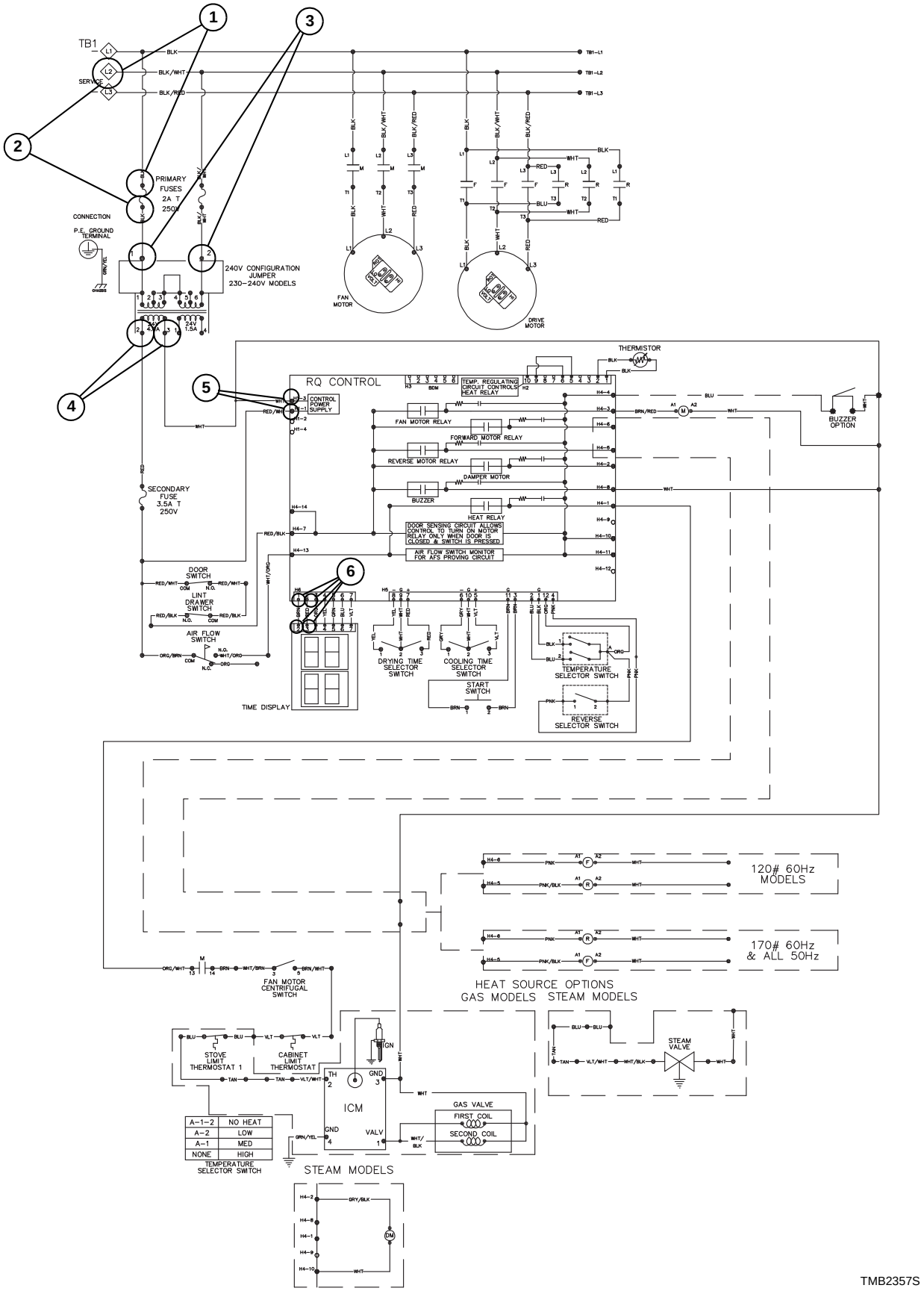
Control Has No Display



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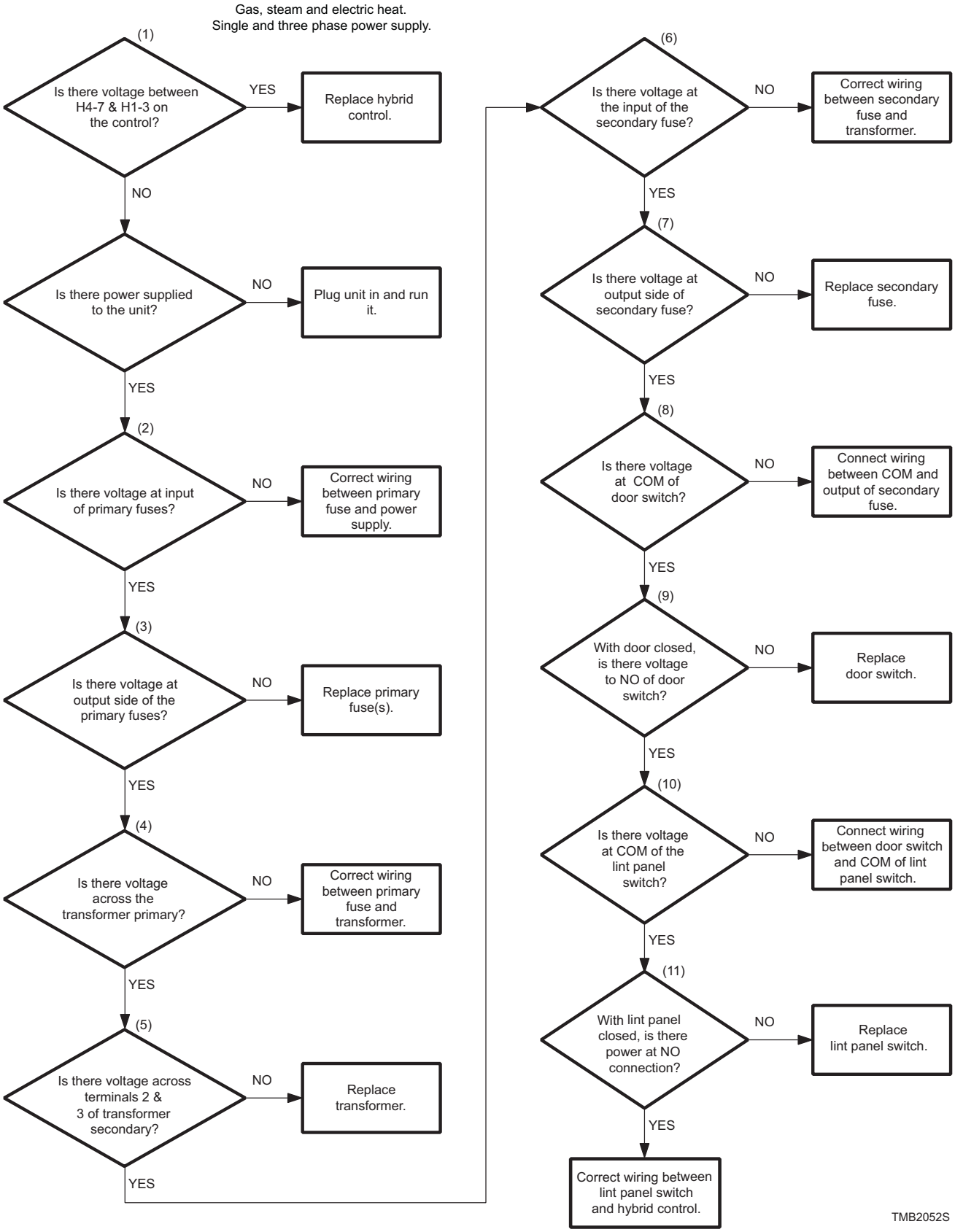
27. Display Flashes “dr” With Door Closed



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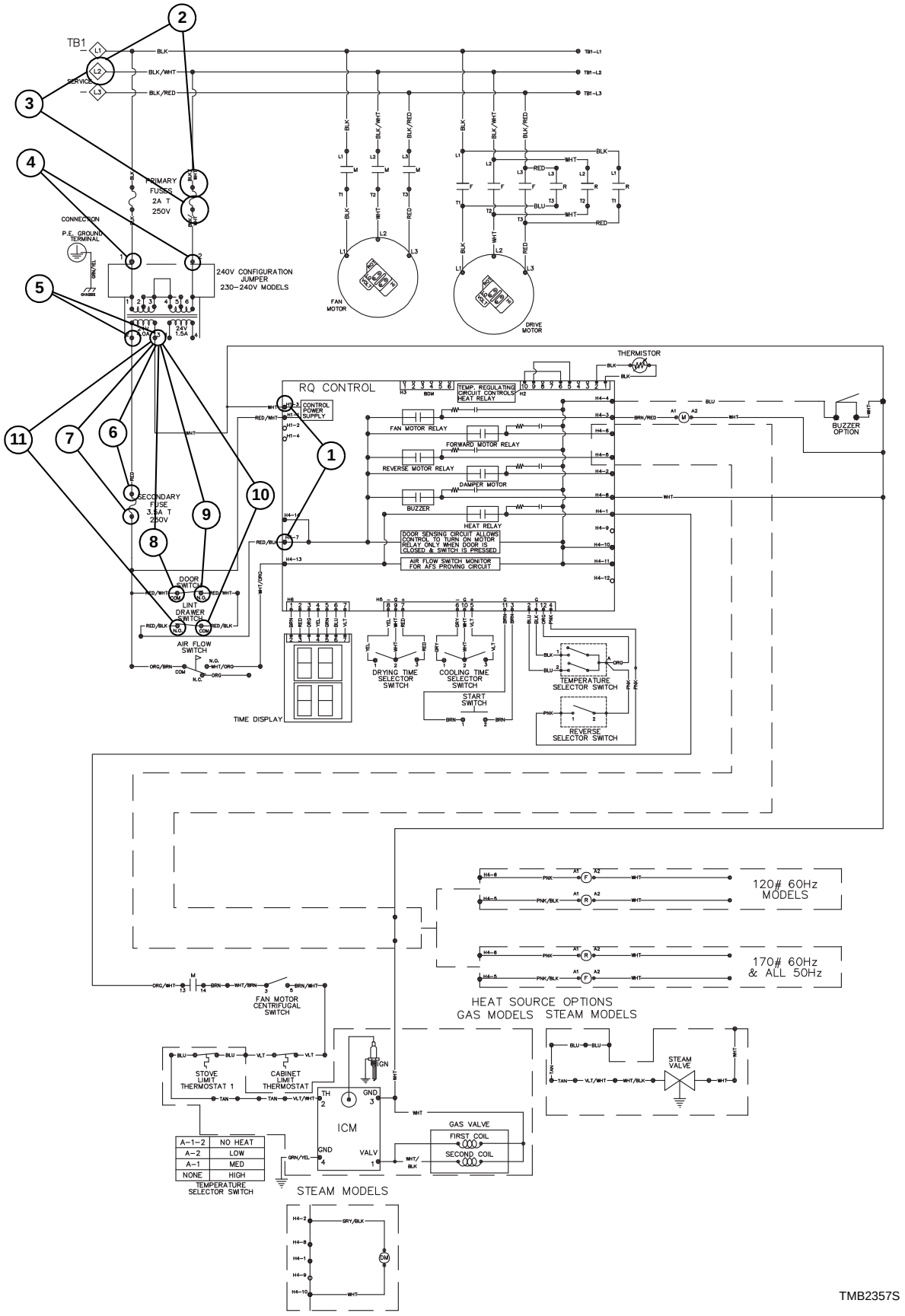
Display Flashes “dr” With Door Closed



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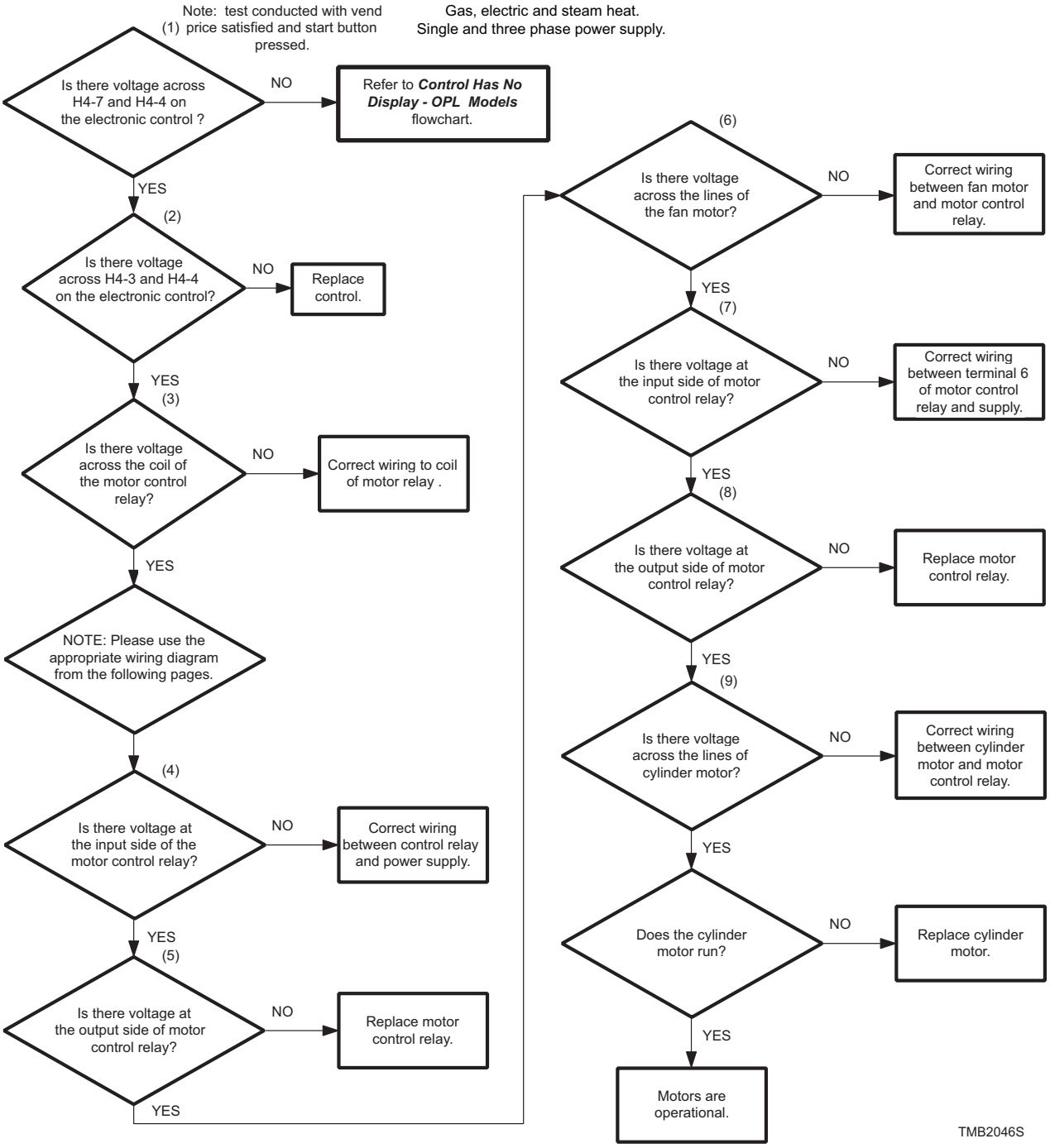
28. Motor Will Not Start/Run


Note: test conducted with vend (1) price satisfied and start button pressed.
Gas, electric and steam heat. Single and three phase power supply.
Is there voltage across H4-7 and H4-4 on the electronic control ?
NO
Refer to Control Has No Display - OPL Models flowchart.
YES
(2)
Is there voltage across H4-3 and H4-4 on the electronic control?
NO
Replace control.
YES
(3)
Is there voltage across the coil of the motor control relay?
NO
Correct wiring to coil of motor relay .
YES
NOTE: Please use the appropriate wiring diagram from the following pages.
(4)
Is there voltage at the input side of the motor control relay?
NO
Correct wiring between control relay and power supply.
YES
(5)
Is there voltage at the output side of motor control relay?
NO
Replace motor control relay.
YES
(6)
Is there voltage across the lines of the fan motor?
NO
Correct wiring between fan motor and motor control relay.
YES
(7)
Is there voltage at the input side of motor control relay?
NO
Correct wiring between terminal 6 of motor control relay and supply.
YES
(8)
Is there voltage at the output side of motor control relay?
NO
Replace motor control relay.
YES
(9)
Is there voltage across the lines of cylinder motor?
NO
Correct wiring between cylinder motor and motor control relay.
YES
Does the cylinder motor run?
NO
Replace cylinder motor.
YES
Motors are operational.
TMB2046S

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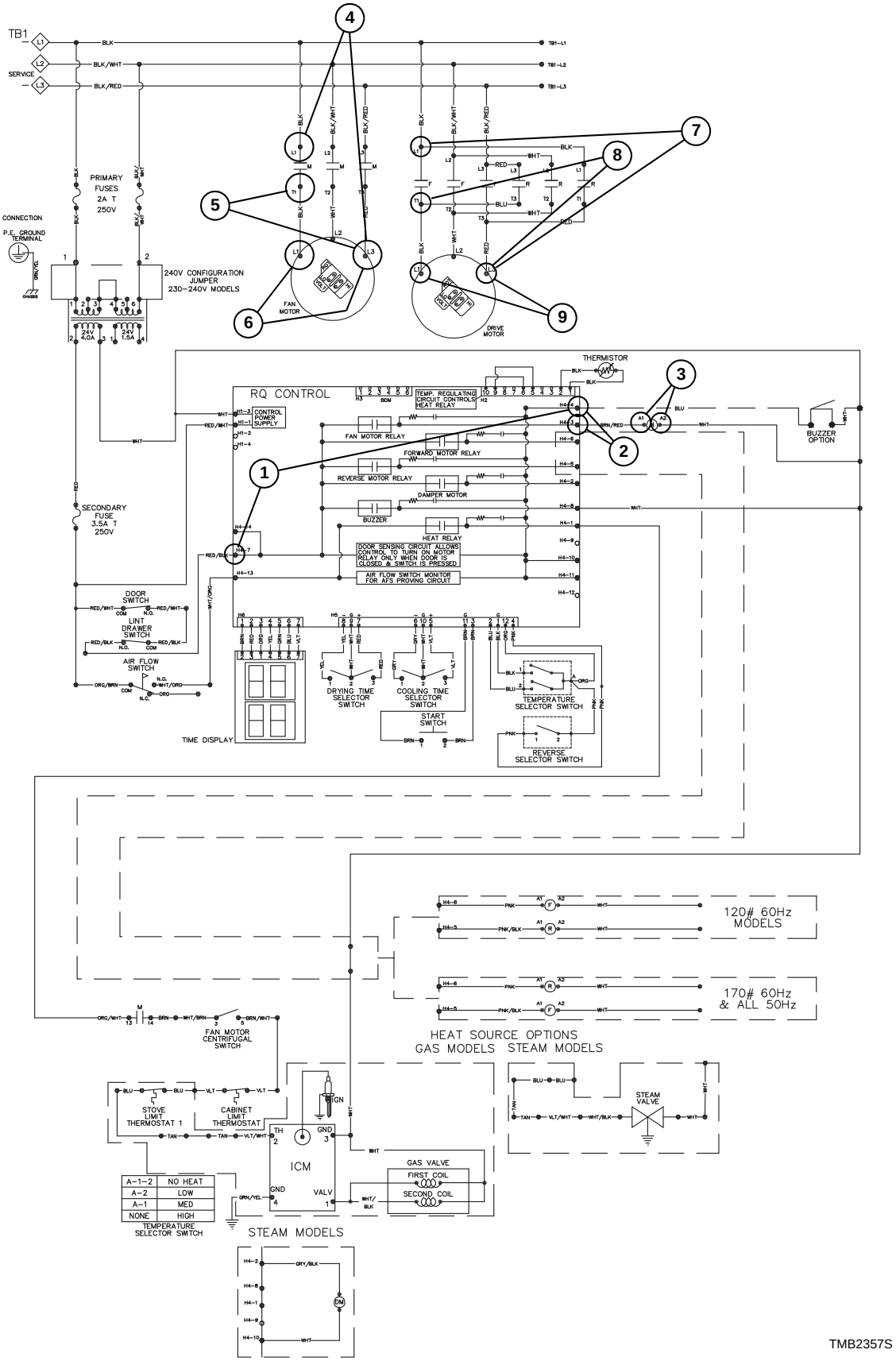
Motor Will Not Start/Run



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29. Unit Will Not Heat – Gas

Note: Tests are conducted with unit running and calling for heat.
All voltage checks are referenced to transformer neutral.
(1)
Is there voltage at H4-1 of hybrid control?
NO
Is the thermistor operational?
NO
Replace thermistor
YES
Replace hybrid control.
YES
(2)
Is there voltage at terminal 13 of motor control relay?
NO
Correct wiring between terminal 13 on motor control and H4-1 on hybrid control.
YES
(3)
Is there voltage at terminal 14 of motor control relay?
YES
Replace motor control relay.
NO
(4)
Is there voltage at terminal 3 of fan motor centrifugal switch?
NO
Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 4 of motor control relay.
YES
(5)
Is there voltage at terminal 5 of fan motor centrifugal switch?
YES
Replace fan motor.
NO
(6)
Is there voltage to the input side of the cabinet limit?
NO
Correct wiring between cabinet limit and terminal 5 of fan motor centrifugal switch.
YES
(7)
Is there voltage at the output side of the cabinet limit?
YES
Replace cabinet limit.
NO
(8)
Is there voltage to the input side of the stove limit?
NO
Correct wiring between stove limit and cabinet limit.
YES
(9)
Is there voltage at the output side of the stove limit?
YES
Replace stove limit.
NO
(10)
Is there voltage to terminal 2 of the Ignition Control Module (ICM)?
NO
Correct wiring between terminal 2 of ICM and stove limit.
YES
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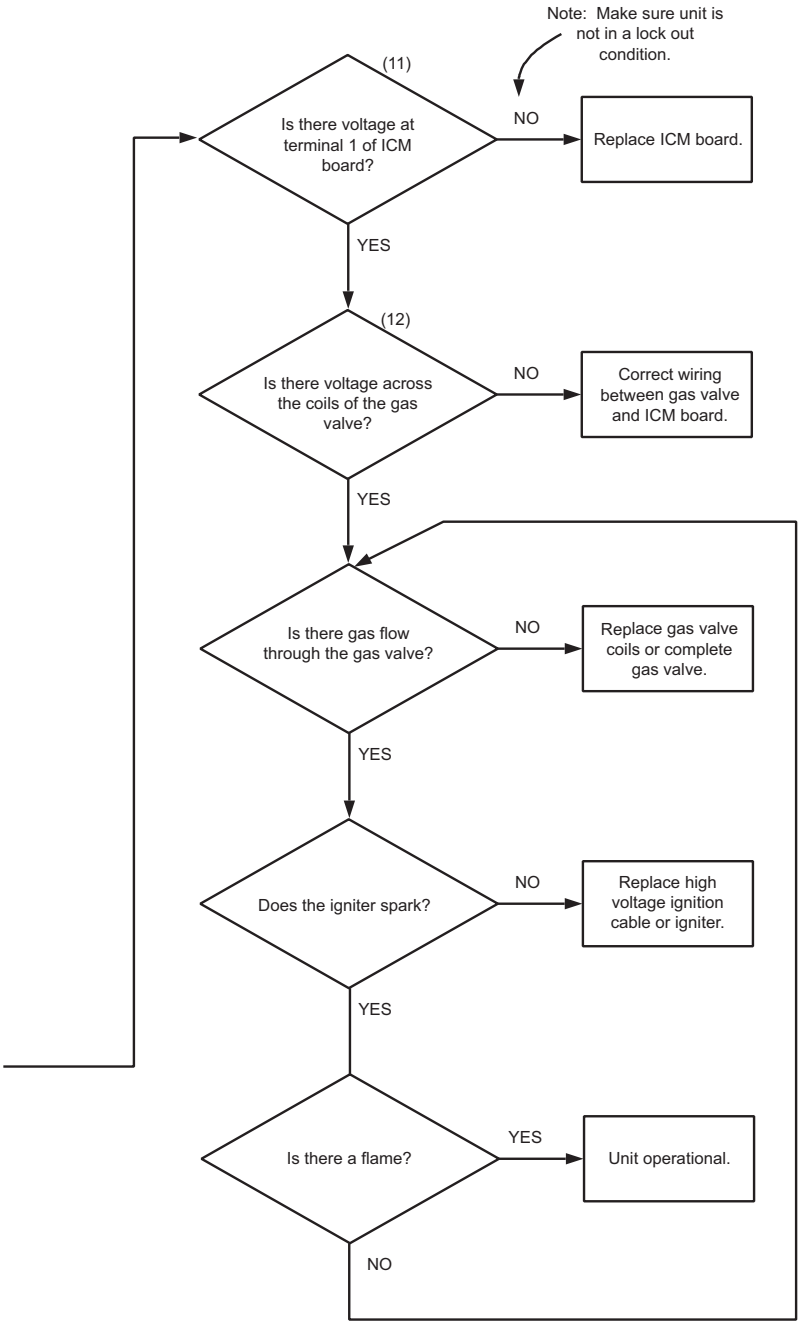
29. Unit Will Not Heat – Gas (continued)



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Please see following page for wiring diagram information.

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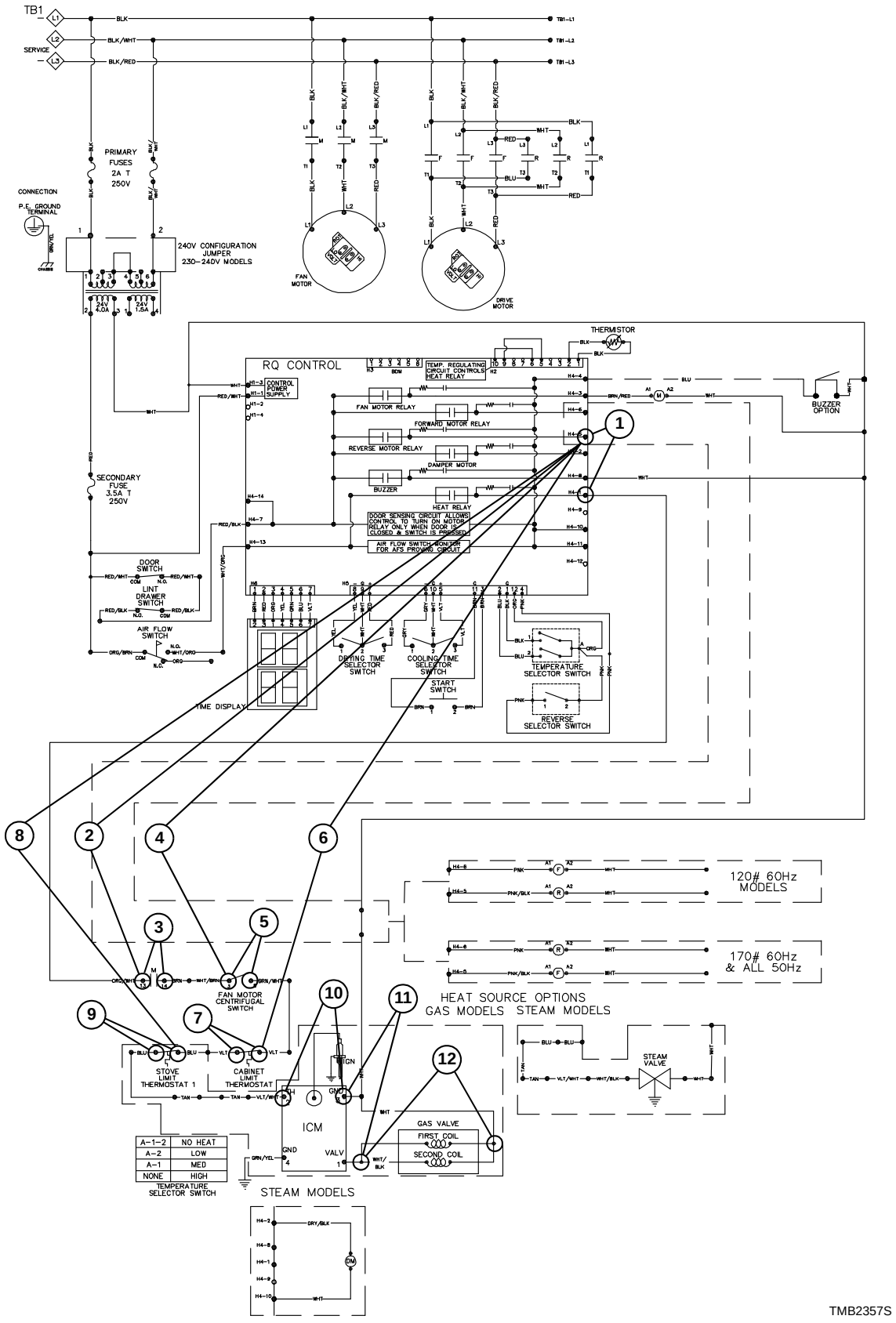
Unit Will Not Heat – Gas



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WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W002

30. Error Codes

Display	Definition	Corrective Action
OP	Open thermistor error.	• Check thermistor. Replace if inoperative. • Check wiring between control and thermistor. Refer to wiring diagram for proper wiring. • Check control. Replace if inoperative.
SH	Shorted thermistor error.	• Check thermistor. Replace if inoperative. • Check wiring between control and thermistor. Refer to wiring diagram for proper wiring. • Check control. Replace if inoperative.
AF-1	Airflow switch closed when cycle started.	• Check airflow switch. Replace if inoperative.
AF-2	Airflow switch failed to closed after cycle started.	• Check airflow switch. Replace if inoperative.
AF (flashing)	Airflow switch opened/closed 5 or more times in a running cycle.	• Check airflow switch. Replace if inoperative.

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Section 6
On Premise Micro Control (RM) Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W002

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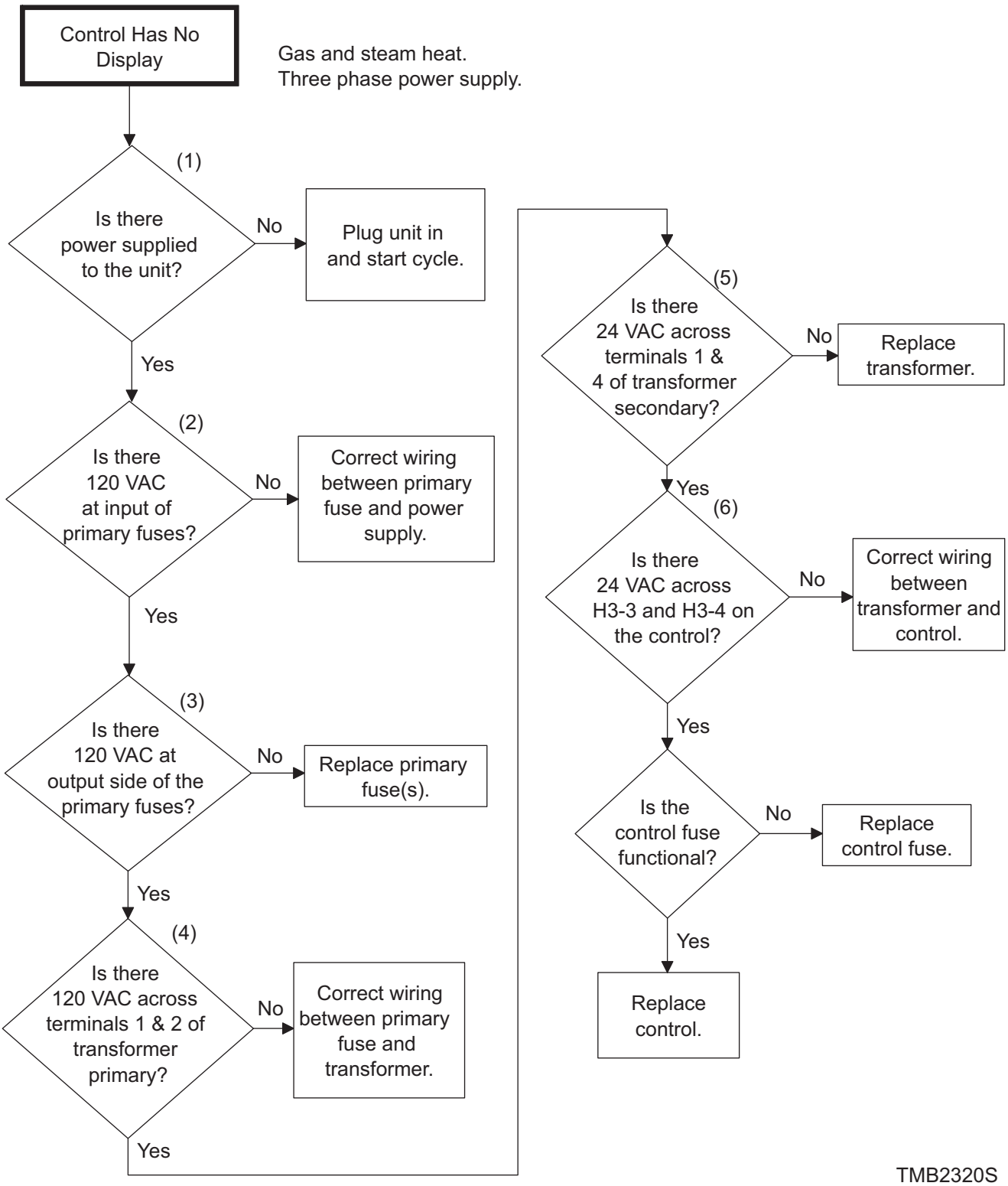
31. Control Has No Display



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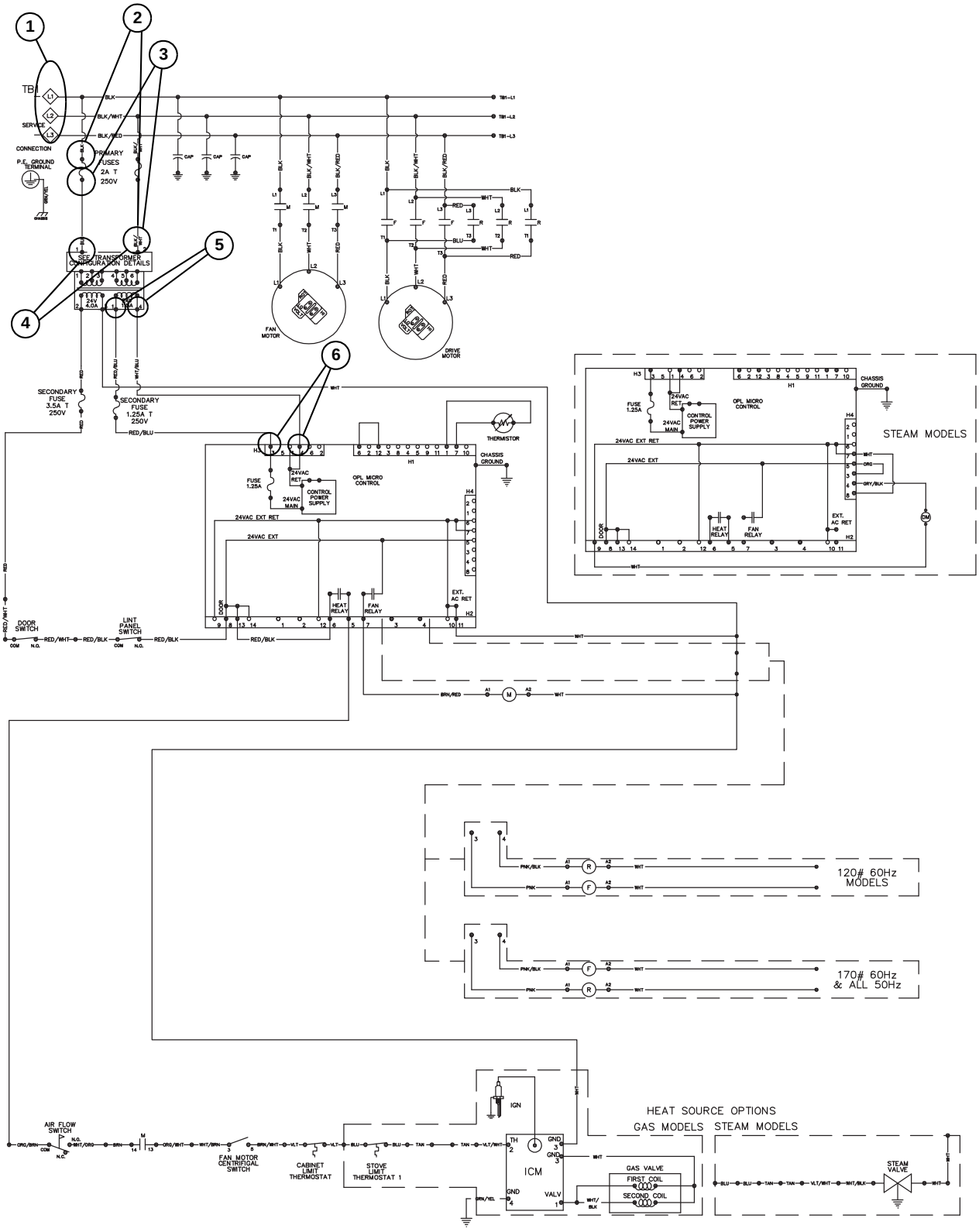
Control Has No Display



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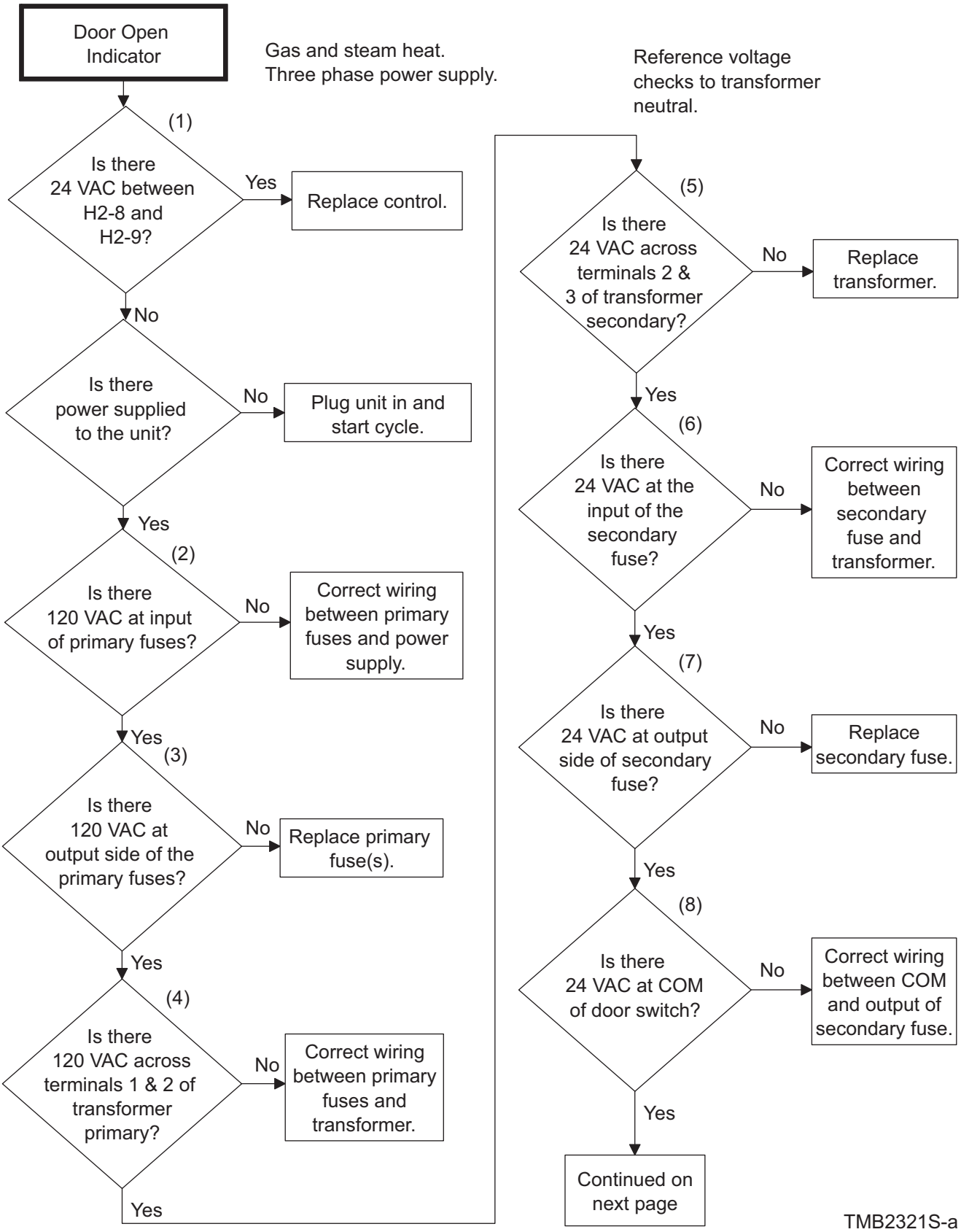
32. Door Open Indicator



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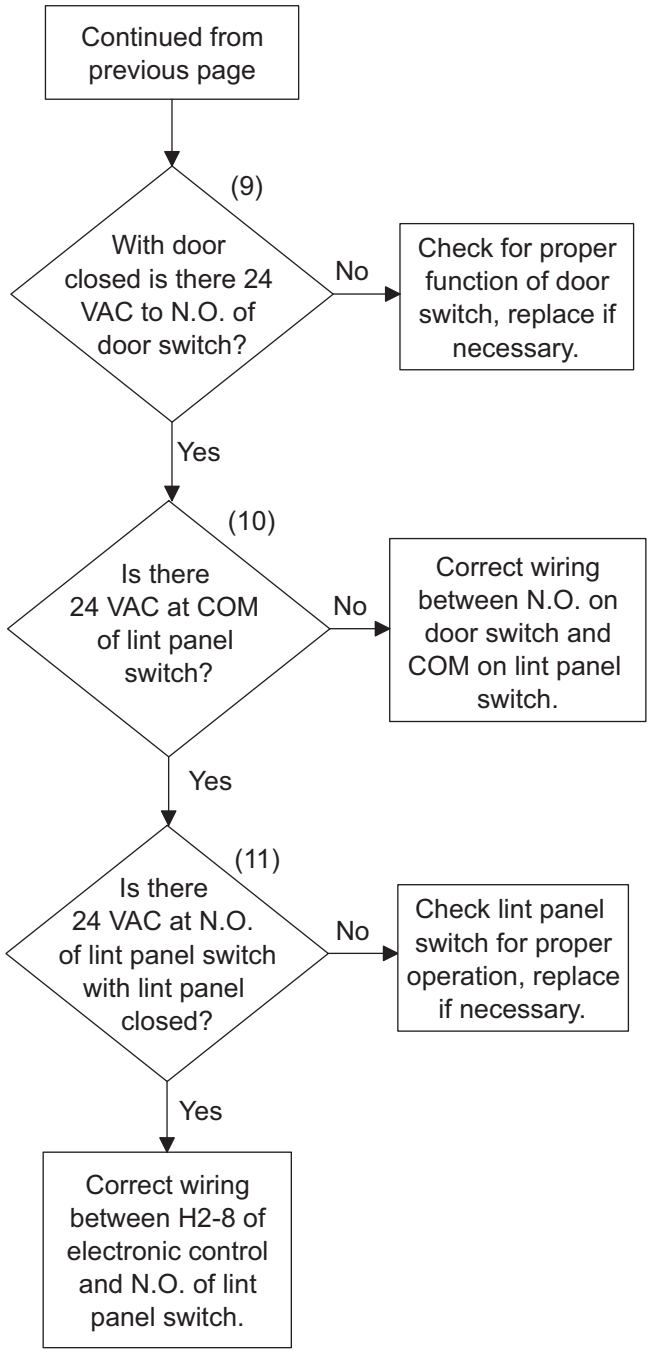
32. Door Open Indicator (continued)


Continued from previous page
(9)
With door closed is there 24 VAC to N.O. of door switch?
No
Check for proper function of door switch, replace if necessary.
Yes
(10)
Is there 24 VAC at COM of lint panel switch?
No
Correct wiring between N.O. on door switch and COM on lint panel switch.
Yes
(11)
Is there 24 VAC at N.O. of lint panel switch with lint panel closed?
No
Check lint panel switch for proper operation, replace if necessary.
Yes
Correct wiring between H2-8 of electronic control and N.O. of lint panel switch.

TMB2321S-b

Please see following page for wiring diagram information.

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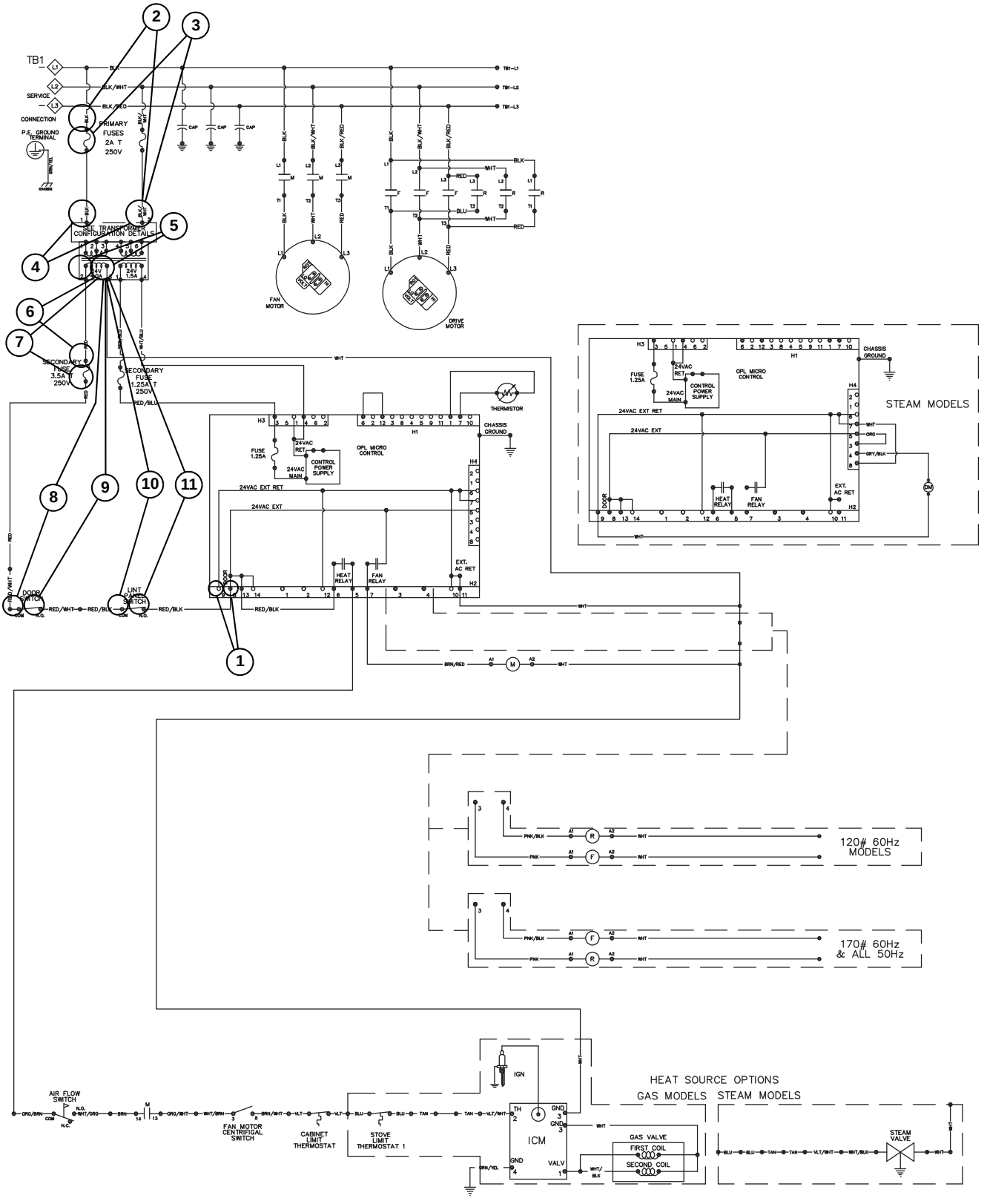
Door Open Indicator



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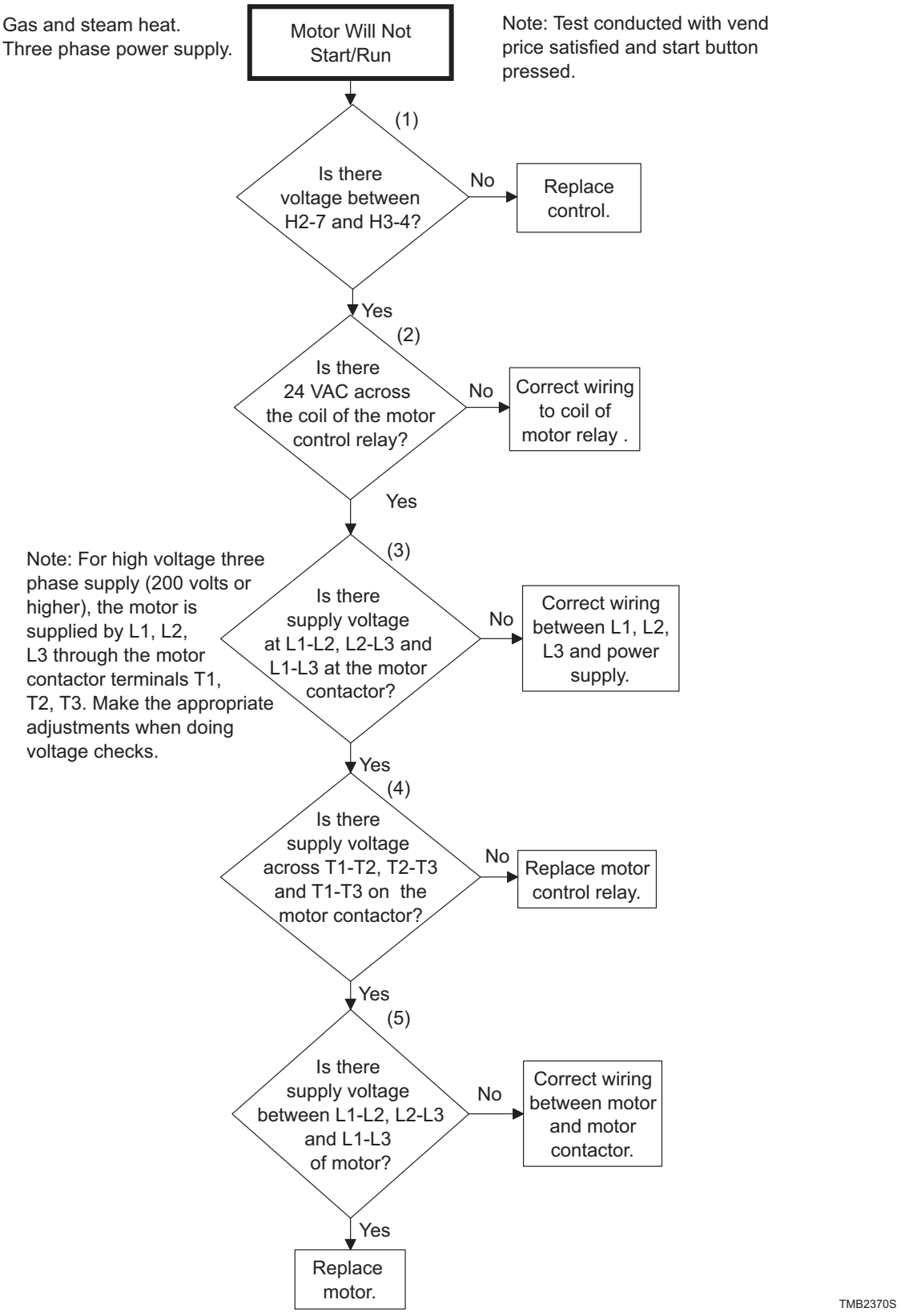
33. Motor Will Not Start/Run


Gas and steam heat.
Three phase power supply.
Motor Will Not Start/Run
Note: Test conducted with vend price satisfied and start button pressed.
(1)
Is there voltage between H2-7 and H3-4?
No
Replace control.
Yes
(2)
Is there 24 VAC across the coil of the motor control relay?
No
Correct wiring to coil of motor relay .
Yes
(3)
Note: For high voltage three phase supply (200 volts or higher), the motor is supplied by L1, L2, L3 through the motor contactor terminals T1, T2, T3. Make the appropriate adjustments when doing voltage checks.
Is there supply voltage at L1-L2, L2-L3 and L1-L3 at the motor contactor?
No
Correct wiring between L1, L2, L3 and power supply.
Yes
(4)
Is there supply voltage across T1-T2, T2-T3 and T1-T3 on the motor contactor?
No
Replace motor control relay.
Yes
(5)
Is there supply voltage between L1-L2, L2-L3 and L1-L3 of motor?
No
Correct wiring between motor and motor contactor.
Yes
Replace motor.
TMB2370S

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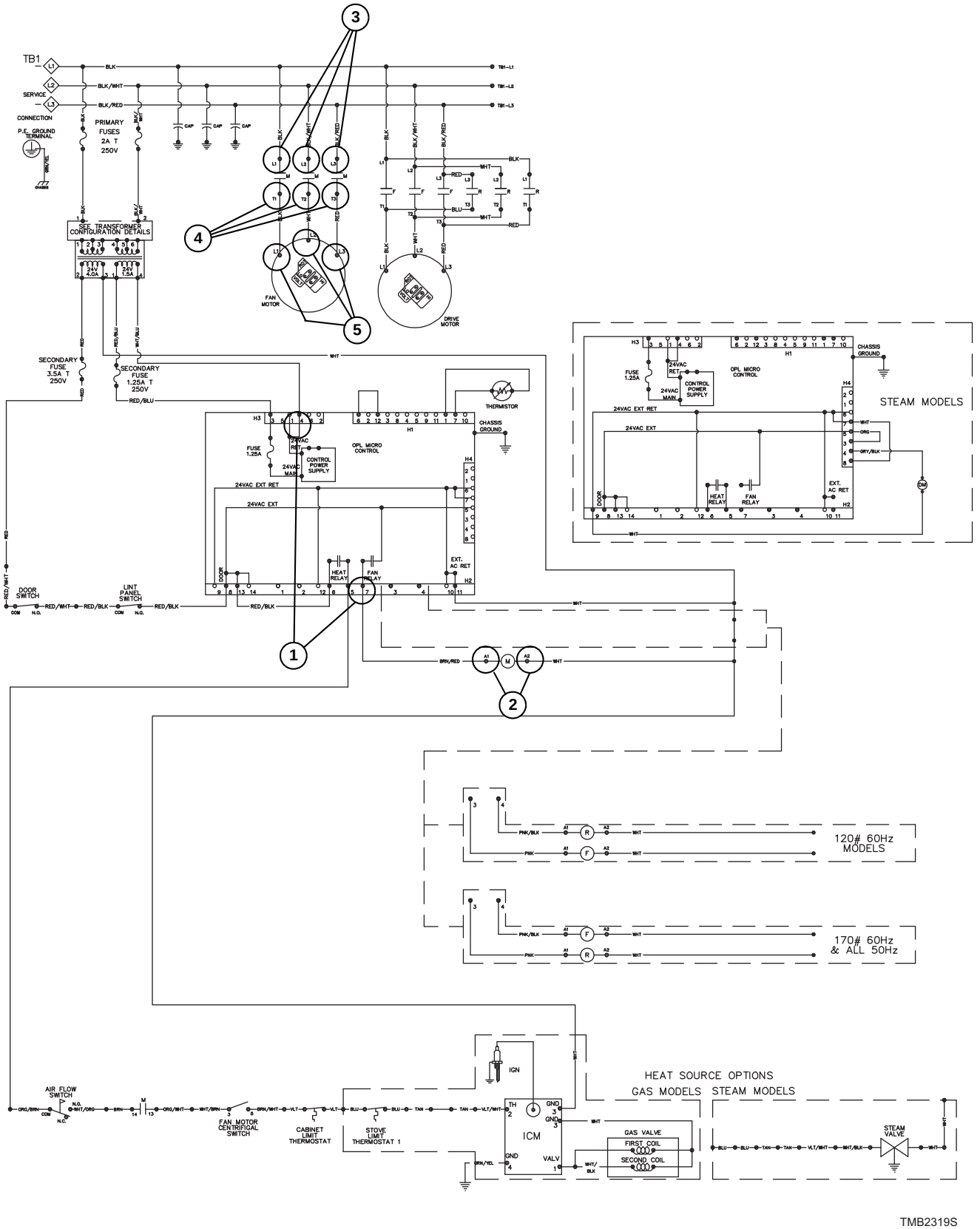
Motor Will Not Start/Run



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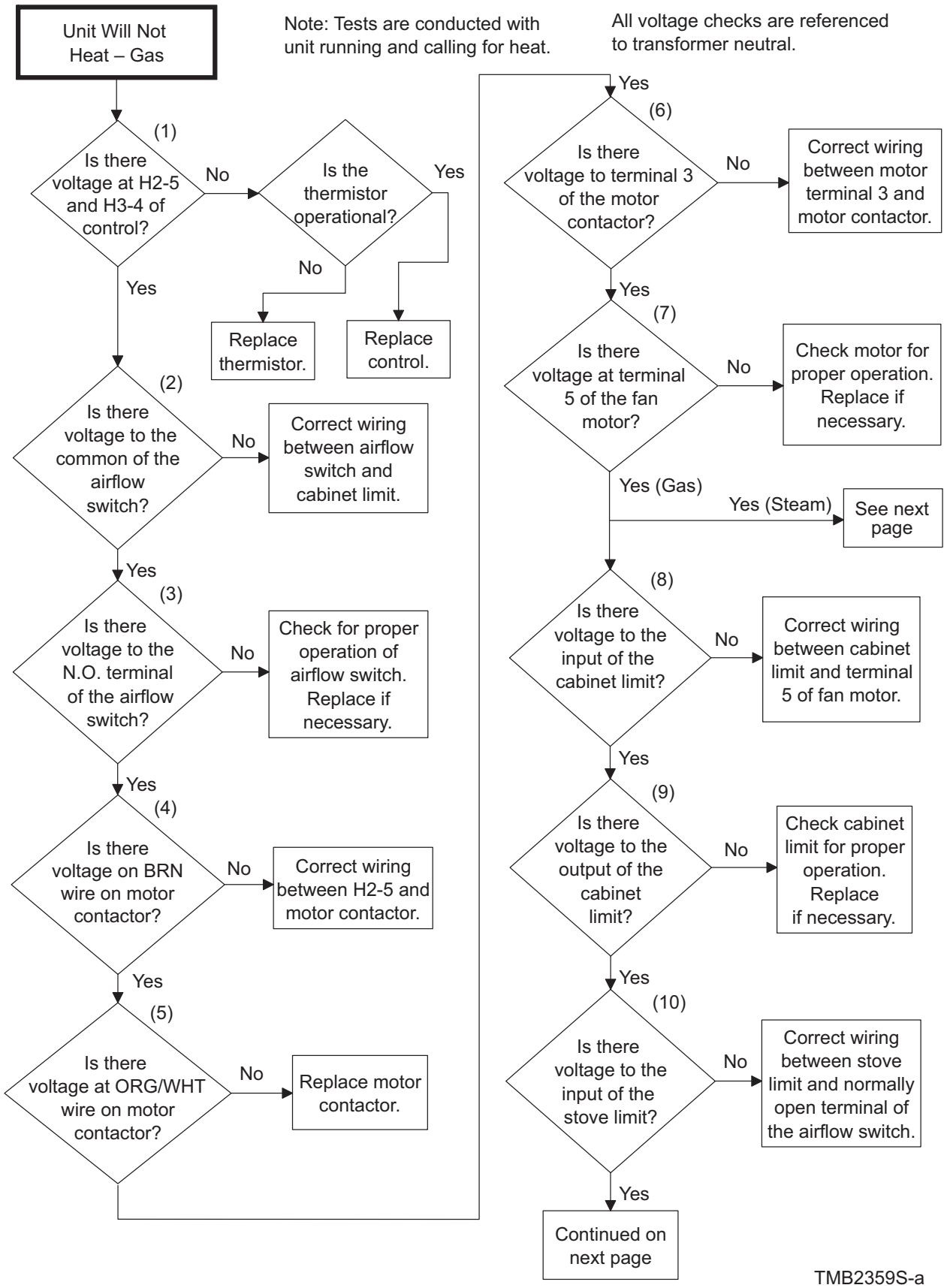
34. Unit Will Not Heat – Gas/Steam


Unit Will Not Heat – Gas
Note: Tests are conducted with unit running and calling for heat.
All voltage checks are referenced to transformer neutral.
(1)
Is there voltage at H2-5 and H3-4 of control?
No
Is the thermistor operational?
Yes
No
Replace thermistor.
Replace control.
Yes
(2)
Is there voltage to the common of the airflow switch?
No
Correct wiring between airflow switch and cabinet limit.
Yes
(3)
Is there voltage to the N.O. terminal of the airflow switch?
No
Check for proper operation of airflow switch. Replace if necessary.
Yes
(4)
Is there voltage on BRN wire on motor contactor?
No
Correct wiring between H2-5 and motor contactor.
Yes
(5)
Is there voltage at ORG/WHT wire on motor contactor?
No
Replace motor contactor.
Yes
(6)
Is there voltage to terminal 3 of the motor contactor?
No
Correct wiring between motor terminal 3 and motor contactor.
Yes
(7)
Is there voltage at terminal 5 of the fan motor?
No
Check motor for proper operation. Replace if necessary.
Yes (Gas)
Yes (Steam)
See next page
(8)
Is there voltage to the input of the cabinet limit?
No
Correct wiring between cabinet limit and terminal 5 of fan motor.
Yes
(9)
Is there voltage to the output of the cabinet limit?
No
Check cabinet limit for proper operation. Replace if necessary.
Yes
(10)
Is there voltage to the input of the stove limit?
No
Correct wiring between stove limit and normally open terminal of the airflow switch.
Yes
Continued on next page
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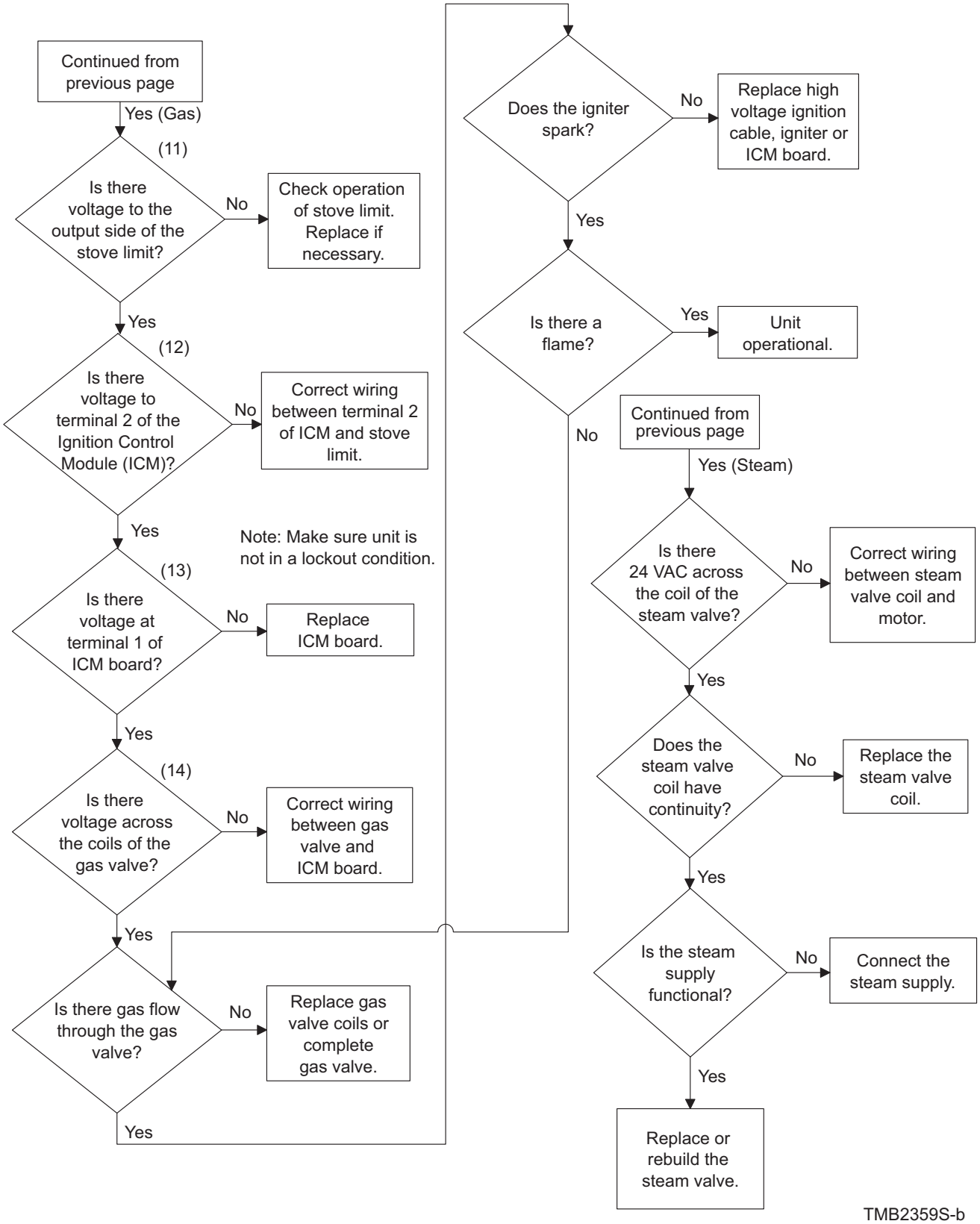
34. Unit Will Not Heat – Gas/Steam (continued)



Please see following page for wiring diagram information.

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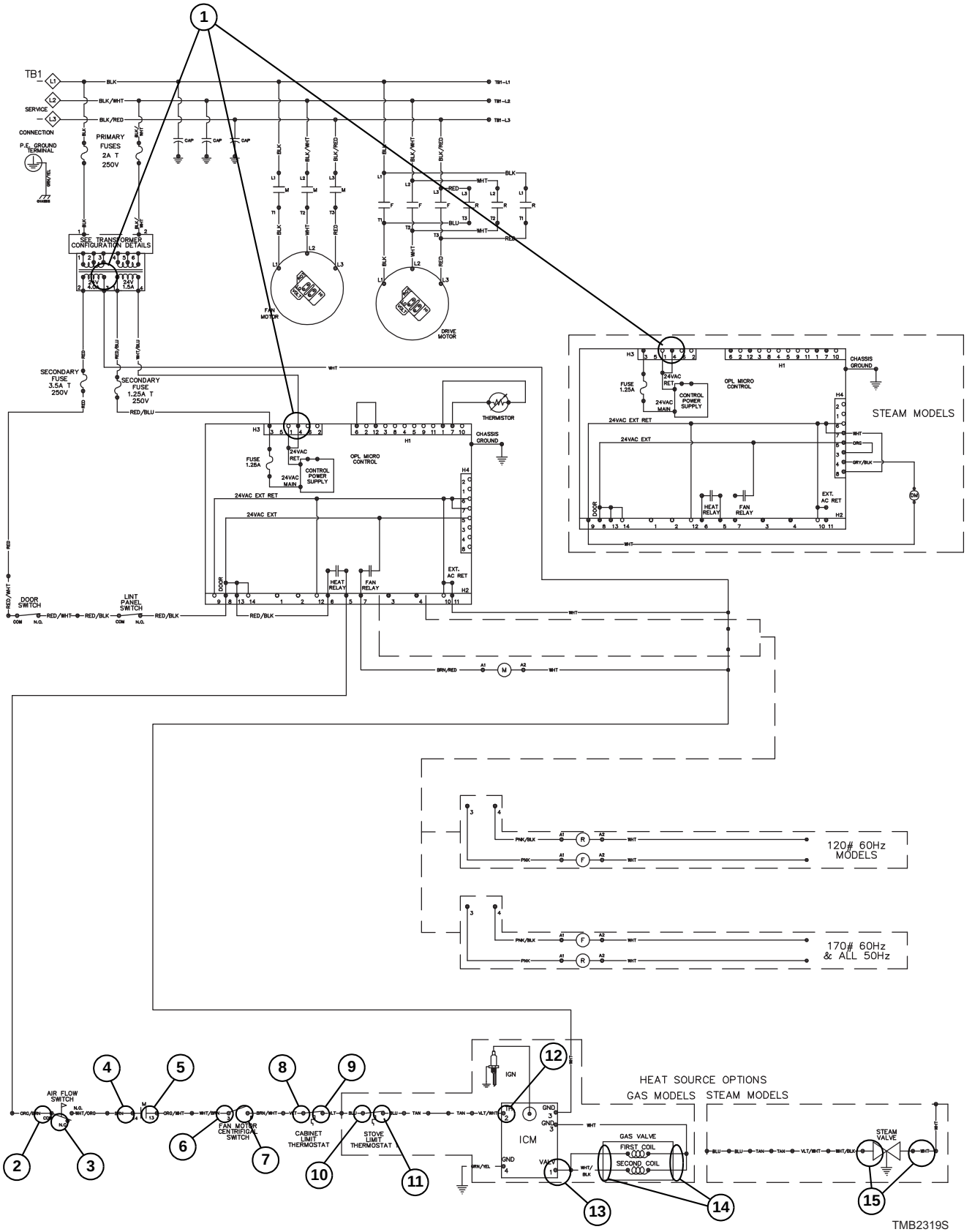
Unit Will Not Heat – Gas/Steam



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WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the dryer(s) before servicing.**
- **Close gas shut-off valve to gas dryer(s) before servicing.**
- **Never start the dryer(s) with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the dryer is properly grounded.**

W001R1

35. Error Codes

OP - Indicates physical “open” in the thermistor circuit. Possible causes are: 1) thermistor, 2) wiring between control and thermistor, 3) control.
SH - Indicates a “short” in the thermistor circuit. Possible causes are: 1) shorted thermistor, 2) a short in the wiring between control and thermistor, 3) control.

Display	Definition	Corrective Action
OP	Indicates an open circuit in the thermistor.	• Check thermistor. Replace if inoperative. • Check wiring between control and thermistor. Refer to wiring diagram for proper wiring. • Check control. Replace if inoperative.
SH	Indicates a short circuit in the thermistor.	• Check thermistor. Replace if inoperative. • Check wiring between control and thermistor. Refer to wiring diagram for proper wiring. • Check control. Replace if inoperative.

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